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FUTURE

VOLUME 6

WELCOME TO

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Can you remember the first time you played *Skool Daze*, or the moment you received your first Game Boy? Perhaps you can effortlessly recall that brilliant goal you scored in *Speedball 2*, or can remember reading the first issue of *Amiga Power* like it was yesterday. If all of those things are still fresh in your mind then you'll find our latest book an essential read. We've scoured the last 13 issues of **Retro Gamer** to fill this tome with the very best content, from gigantic cover features to essential articles that give fascinating insight into the creation of popular classic games. So run home, put the kettle on, grab a slice of cake and enjoy the ride as we chat to key developers about some of the greatest videogames of all time.

FUTURE

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retro GAMER ANNUAL

THE ULTIMATE GUIDE TO CLASSIC VIDEOGAMING

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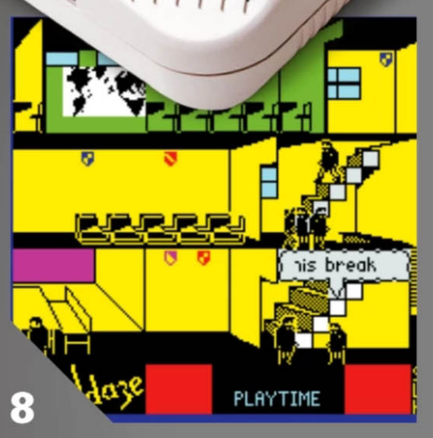

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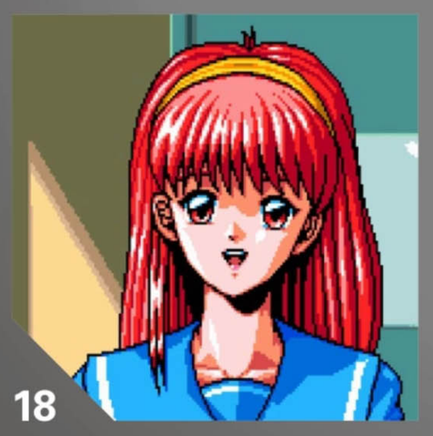
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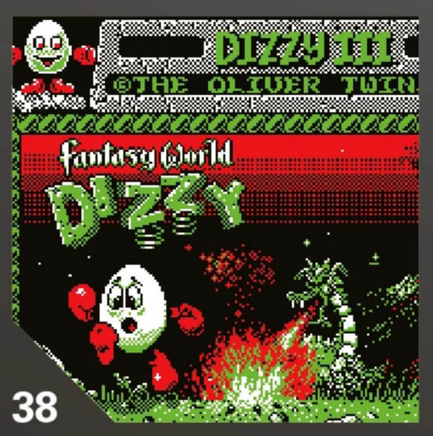

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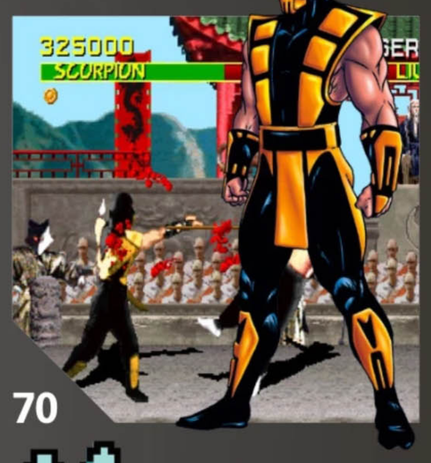

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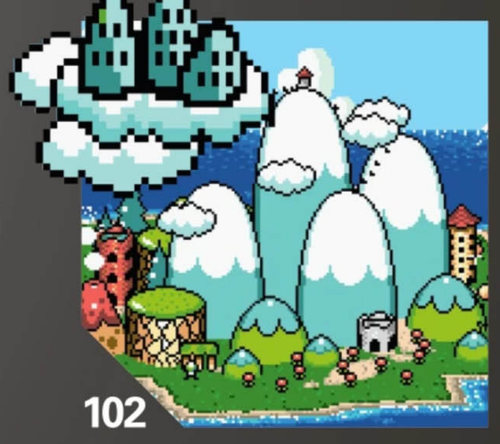
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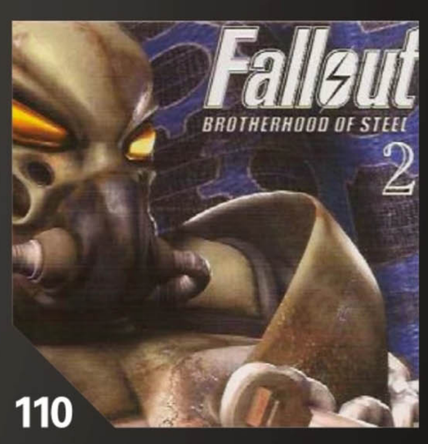

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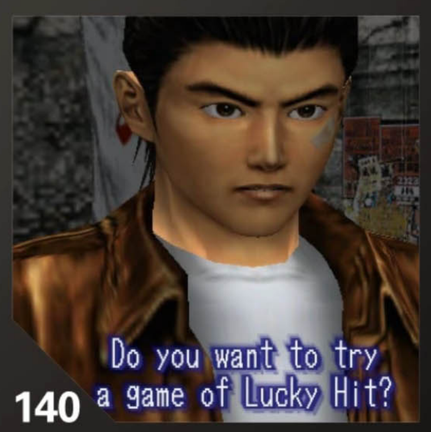

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ULTIMATE GUIDE:

ZX Spectrum

» If Eric gets penalised with too many lines, he'll get expelled and it's game over.

35 years ago, publisher Microsphere took us back to the classroom with its tale of errant schoolboy Eric and his damning school report. Pick up your catapult – it's time to... hit some shields?

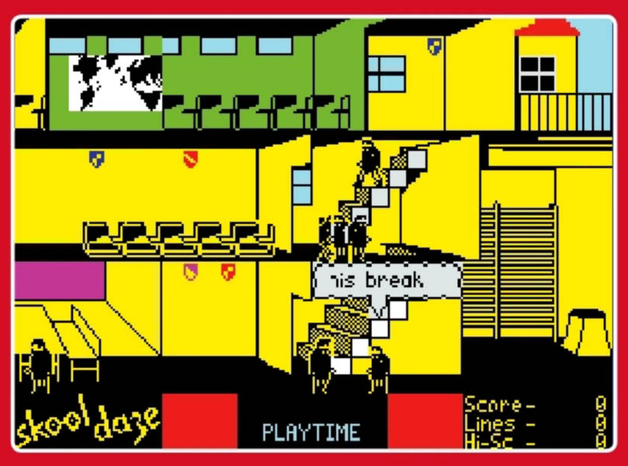
Words by Graeme Mason

Eric has been a naughty boy. Unauthorised absences, scribbling on blackboards and the use of an offensive weapon have all led to an appalling term report. Should Eric knuckle down and study hard so that he can improve his grades? Or should he try and make sure that the derogatory report, locked away inside the school safe, never reaches his parents? We think we know the answer.

Set up not long after Sinclair announced the ZX Spectrum, north London software house Microsphere quickly established itself as a home for quality games on the popular computer. Run by the husband and wife team of Dave and Helen Reidy, the pair began by publishing utilities before realising the Spectrum's potential as a games machine. After *The Train Game*, Microsphere's breakthrough hit came with the motorcycle smash *Wheelie* in 1983. When thoughts turned to their next effort, the Reidys drew on both their experiences as school teachers, plotting and planning a game based around the so-called 'happiest days of your life'. With Dave writing the code down on paper, Helen typing it in and their colleague Keith Warrington providing the graphics, there was a cosy feel to development at Microsphere. But the result was a classic 8-bit title that broke the mould with its sandbox-style game design before that term even existed.

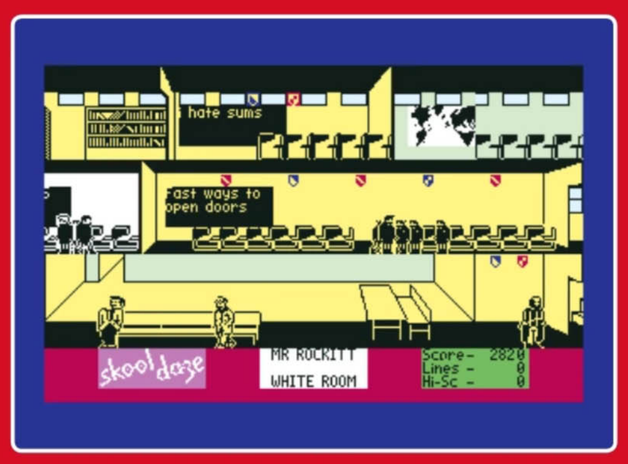
CONVERSION CAPERS

Which version earns extra credit, and which gets detention?



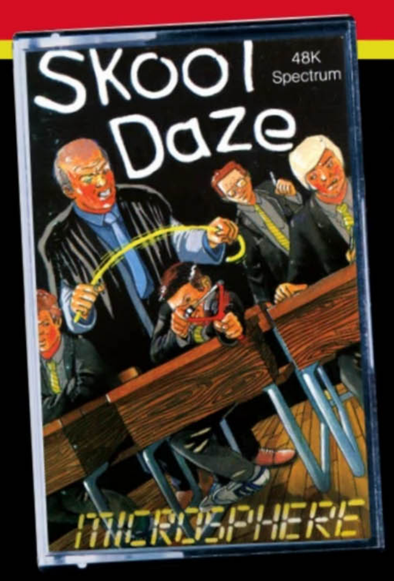
ZX SPECTRUM

■ The original version of *Skool Daze* on the Spectrum is, quite rightfully, the best remembered one. Coded by Dave Reidy, with help from his wife Helen, the game's charming graphics, full of personality and quirkiness, were designed by their colleague Keith Warrington. It's not perfect – the push scroll can be annoying at times, and the sound is sparse at best – but there's no doubting that *Skool Daze*'s iconic gameplay entirely justifies its position as one of the finest games on the Sinclair computer.

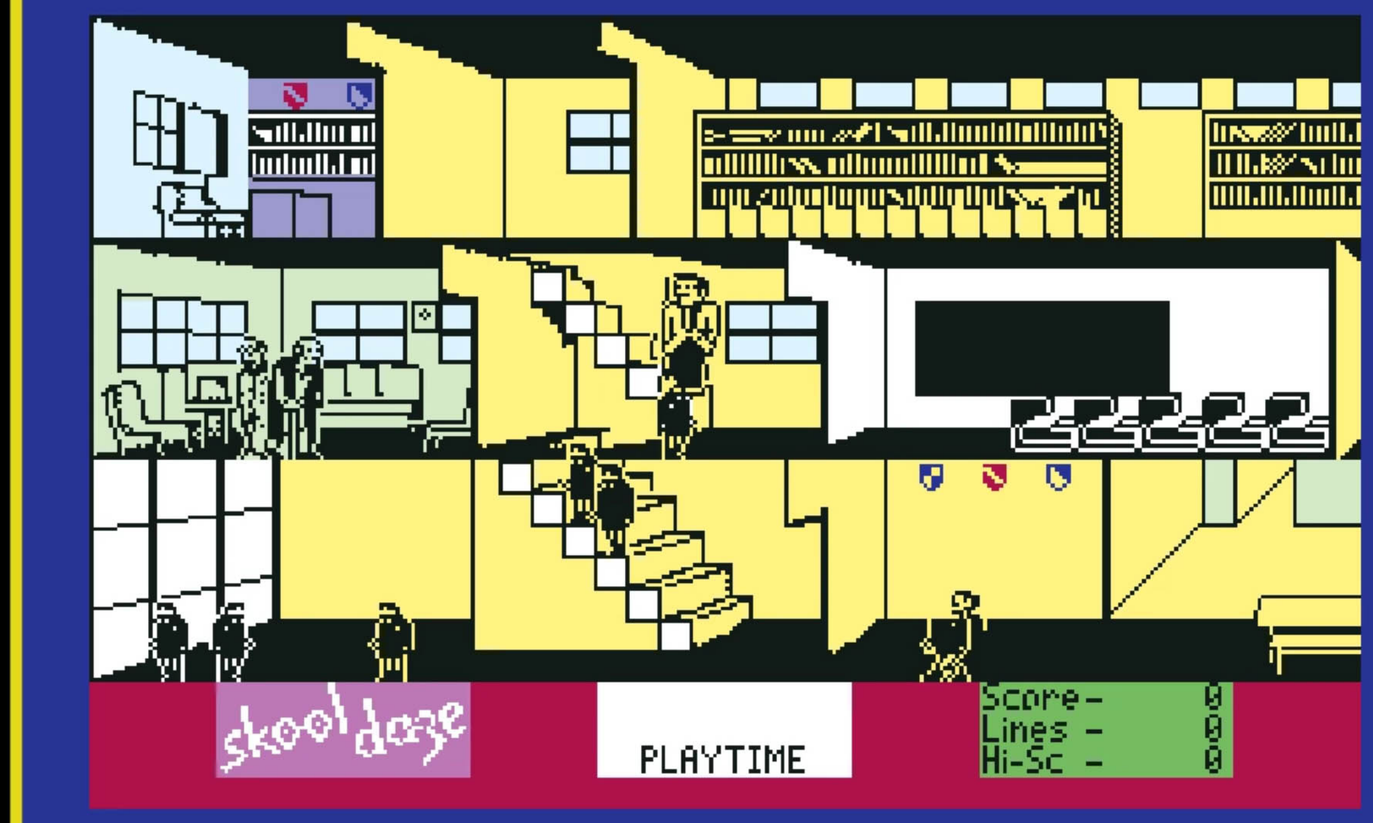


COMMODORE 64

■ With the Spectrum version of *Skool Daze* proving a smash hit, Microsphere began working on a port to the Commodore 64. Released in the following year, it retains all the elements that made the game such a hit, only with improved sound. While the C64 *Skool Daze*'s similar graphics didn't endear it to some critics, the core sandbox design worked just as well despite a few minor tweaks. Sadly, sales were not as outstanding as on the Spectrum, and it became Microsphere's lone Commodore 64 game.



» Luckily, copies of *Skool Daze* aren't expensive so you can experience this great game quite easily.

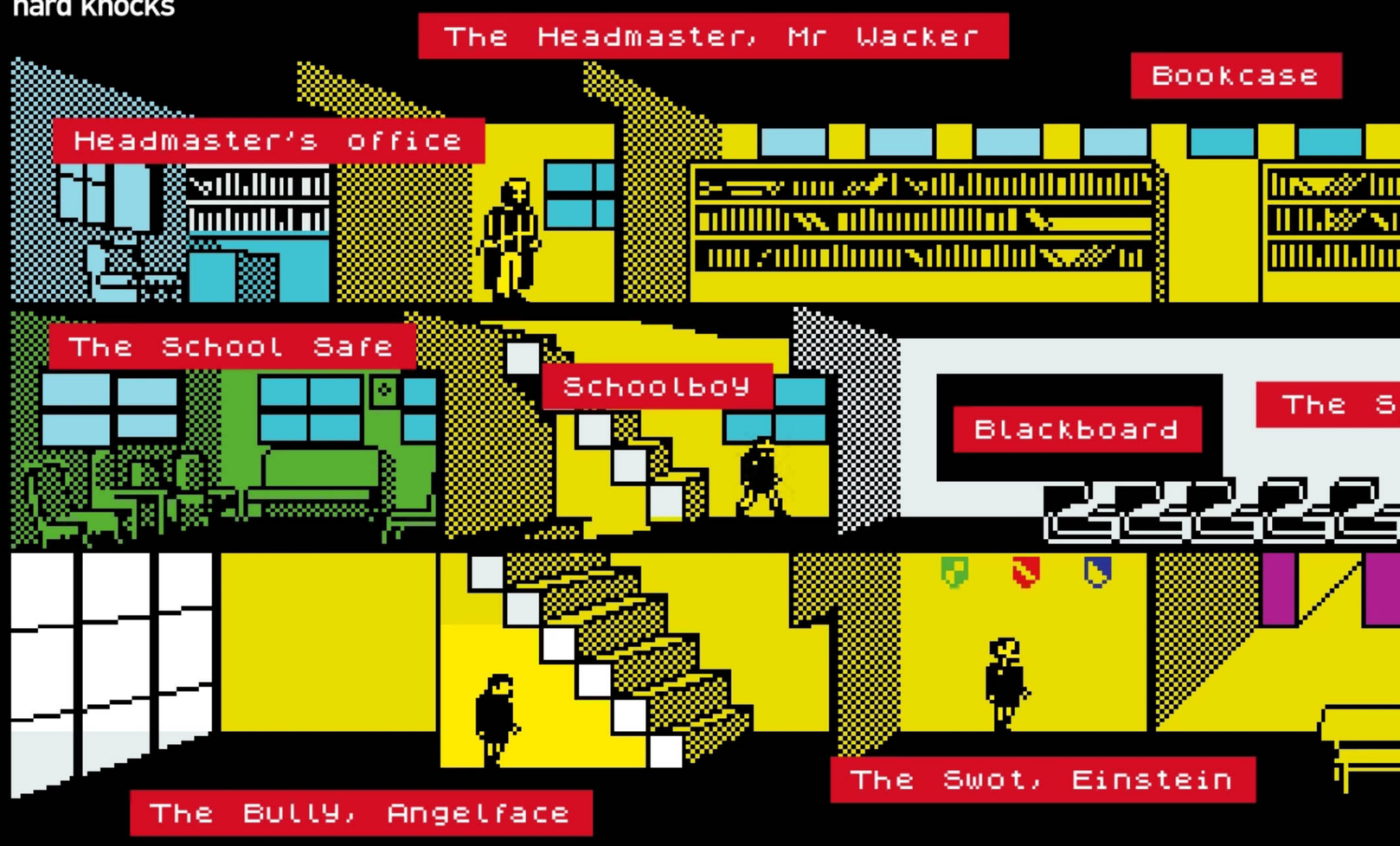


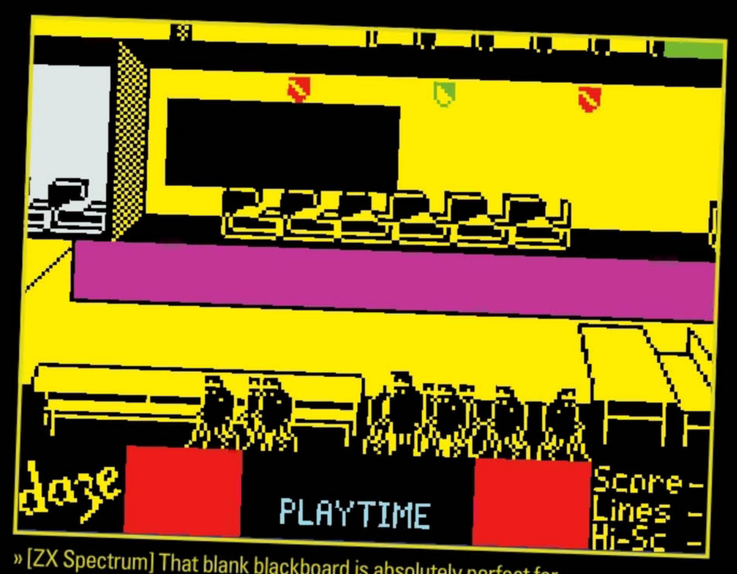
» Playtime is predictably frenetic, and keep an eye out for Angelface!

In a move of genius, *Skool Daze* begins with each member of the cast strolling into the centre of the screen with an option to rename them in turn. Einstein, the bespectacled child know-it-all can become the school swot from your own class. Pudgy bully Angelface is transformed into your personal nemesis from the playground, alongside Mr Wacker the patriarchal headteacher, and of course you can cast yourself as the star of the story. The game then commences with playtime, and our hero is surrounded by the cast of his school, friends and enemies everywhere. During this break, the teachers stalk the building, making sure Eric and his cohorts maintain some semblance of good behaviour, and they're named in a quaintly amusing *Bash Street Kids* style. There's Mr Rockitt, the nerdy science teacher; Mr Creak, the history teacher who looks like he's teaching most of history from his own first-hand experiences; and Mr Withit, the younger and friendlier geography teacher who addresses his pupils as 'chaps' and strolls around with his hands in his pockets. Finally, straight out of the pages of *The Demon Headmaster* is Mr Wacker the cloaked

PIXEL PERFECT

Welcome to the school of hard knocks





» [ZX Spectrum] That blank blackboard is absolutely perfect for writing a rude word on. You have to reach it first, though.

dark lord of the establishment, gliding menacingly throughout the classrooms, brandishing his cane and dispensing lines to any schoolboy foolish enough to misbehave in his presence.

These lines, given in random lots of hundred, are the unwanted currency of *Skool Daze*: accrue too many and Eric is expelled. Lines can be given for a variety of reasons, and not just the obvious ones, such as punching a fellow student or firing your catapult at a teacher. Sitting on the floor, being in the wrong classroom and wandering into the staff room will all net you a punishment, and sometimes it's not even your fault. In the time-honoured tradition, *Skool Daze* enables its youthful inhabitants to be naughty and then get the rap pinned on another pupil. Alas, this works both ways as Eric is often collared for the antics of Boy Wander (the tearaway) or school bully, Angelface.

Gaining lines is an inevitability as Eric's days at school pass by. Determined to extract the report from the headmaster's safe, each of the school's shields must be struck in order to make them flash. Only when all of them are flashing will the teachers become disorientated enough to reveal their secret combination letter, each one of which is required to prise open that safe. That's not all however, as Eric must then cover his tracks and 'unflash' the shields by hitting them once more. Only when this is done can our hero breathe easily, until the next term that is.

As with another 8-bit sandbox classic, Ocean's *The Great Escape*, *Skool Daze* has a set timetable and routine to each cycle. Beginning with playtime, Eric's day proceeds with a geography lesson, revision in the library, science, dinner time and so on. Failure to adhere to this schedule results in the relevant teacher chasing after the young man, itching to give out a stack of hateful lines. And to make things even trickier for Eric, there are several random events that occur throughout the game, presumably inspired by Helen and Dave's real-life teaching experiences. For example, in one event, boffin Einstein has deduced your plan and is off to tell the head; the only way to prevent the resulting 2,000 lines should he reach Mr Wacker is to make sure the swot doesn't make it to his study in one piece. Or Boy Wander is at it again, labelling an incriminating weapon (a pea-shooter) with Eric's name and leaving it on the fire escape. Stop the headteacher before the tearaway can retrieve ▶

» The remake features new graphics, but retains the feel of the original.

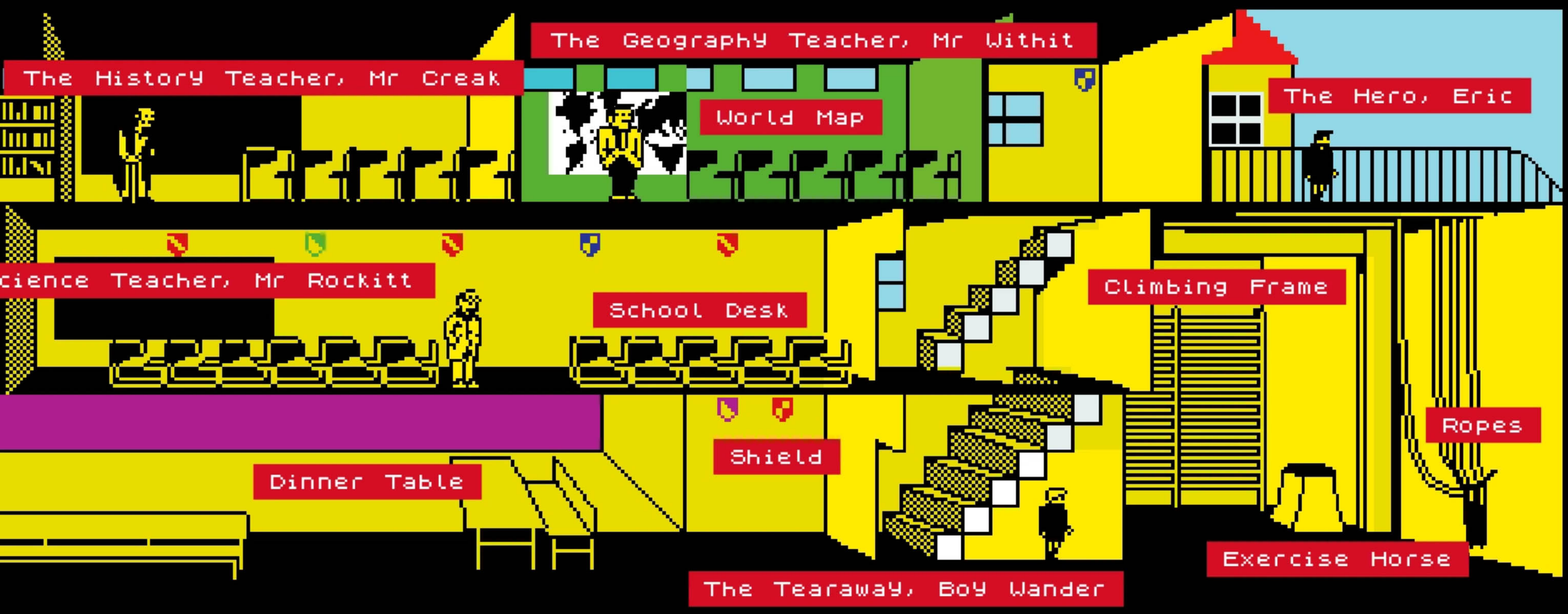
BACK TO SKOOL

Skool Daze Reskooled brings a flavour of old school cool

Faced with recreating a revered classic for the modern age, Alternative Software has combined the timeless charm of the original with a contemporary sheen in *Skool Daze Reskooled*. Many of the original's characters are present and correct: there's the blonde Boy Wander, a creaking Mr Creak, bespectacled Mr Rockitt and, of course, Eric himself. And while the sound effects have been jazzed up, the famous two-tone siren that indicates lines are being given out remains nostalgically in place. Eric's first task is still to obtain his report by activating all the school's shields and he now has a new range of antics to get involved in. For example, waiting by the school gates is his scooter, upon which he can perform stunts. Also included is a revamp of sequel *Back To Skool* (featuring the neighbouring girls' school), and another new adventure, *Nu Skool*, ensures that *Skool Daze Reskooled* represents excellent value. It's available on PC, iOS and Android.

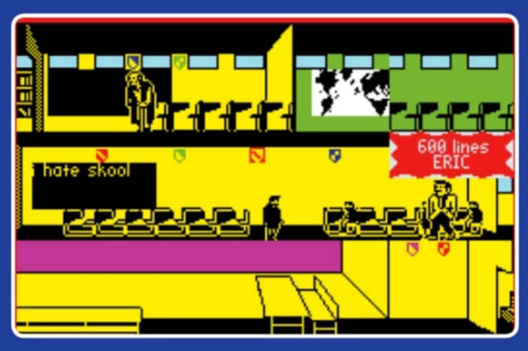
"To have fun you didn't need to beat the game, you could just live and play around within its own world"

Roger Hulley



SWOTTING UP

Eight tips on surviving Skool Daze



HITTING THE SHIELDS PART 1

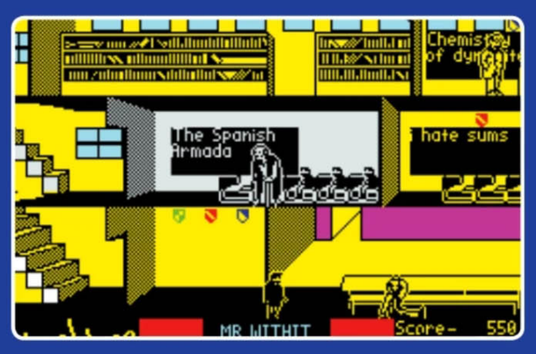
■ The shields on the top floor can easily be reached by jumping at them, whereas the ones on the middle floor are trickier. These require Eric to knock a kid over and then jump on them.

HITTING THE SHIELDS PART 2

■ While some of the shields on the ground floor can be hit from the stairs, most of them need Eric to catapult a teacher once to knock him over, followed by a ricochet off his head and onto the shield above.

PLAYING THE BLAME GAME

■ There's a lot of fun to be had by timing Eric's misdemeanours so that Boy Wander, Angelface or Einstein are reprimanded instead of our hero. It's straightforward to achieve, as the teachers dole out lines to whoever is nearest at the time.

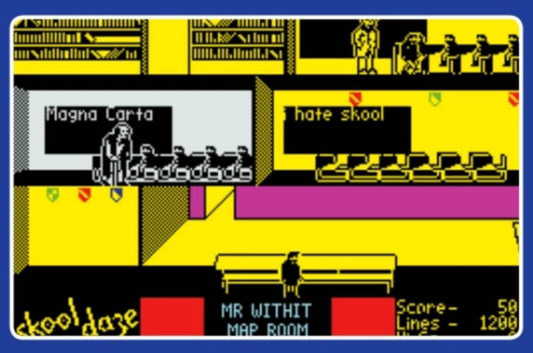


OBTAINING THE CODE PART 1

■ When all the shields have been activated, it's time to get the combination letters from the teachers. The headmaster must be done first, followed by the others. Mr Creak's letter might prove problematic, but we're here to help...

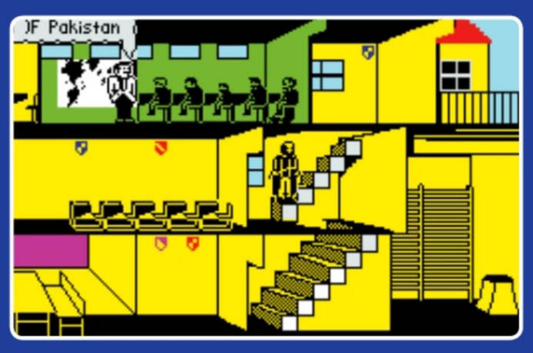
OBTAINING THE CODE PART 2

■ If you've been paying attention in class, you'd have seen the answer to Mr Creak's question, 'Which battle occurred in the year I was born?' Write the answer and he'll reveal the letter.



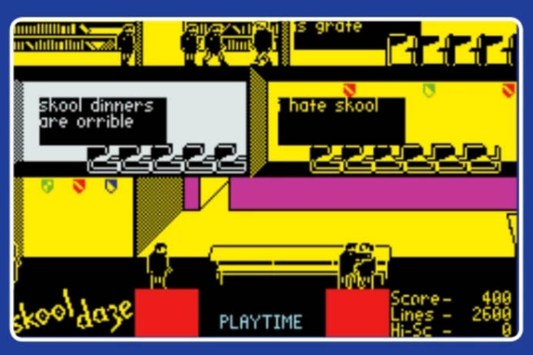
BEWARE THE GEOGRAPHY ROOM

■ There's a bug in the map room. Because there aren't enough seats, Eric will keep getting lines as he's knocked off his chair. Fortunately there's a workaround: follow Mr Withit and stand behind him. He fails to notice, contradicting his name.



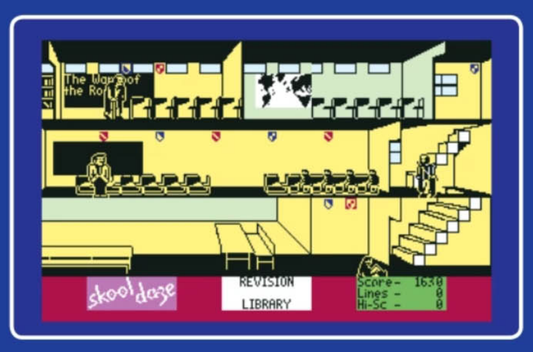
SWOT ATTACK

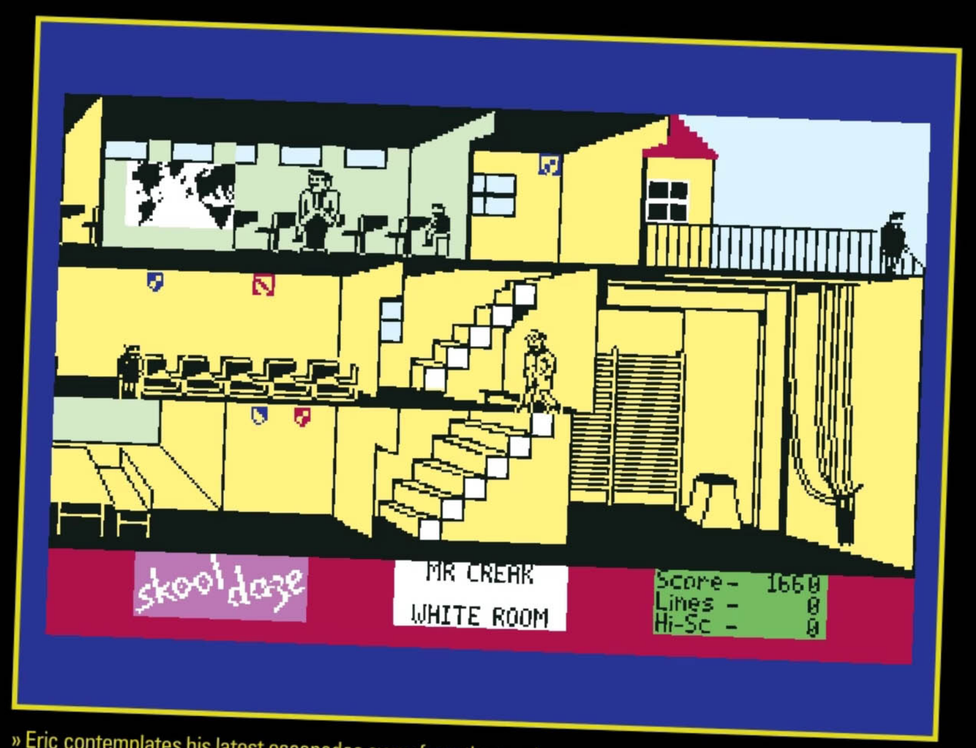
■ Occasionally during playtime, one of the little schoolboys will inform Eric that the swot is on his way to the headmaster to grass him up. Intercept and detain Einstein by any means at your disposal. Basically, punch his lights out until the bell goes.



SHIELD REVISION

■ Given that Eric gets lines if he's found absent from class, there are limited opportunities to explore the school and prime the shields. Revision time is one such time, as long as the diminutive protagonist doesn't wander into a class he shouldn't be in, or the staff room.





» Eric contemplates his latest escapades away from the teachers on the school's fire escape.

> "It was such an original idea at the time"
>
> Roger Hulley

▶ it or cop another 2,000 lines. But the worst is thanks to Angelface, who, in this pre-vaccine era has contracted the highly contagious mumps. Should Eric come in contact with the bully during this playtime, he's sent home, resulting in game over for our plucky work-shy hero.

Upon release, *Skool Daze* became a smash hit for Microsphere. The game's colourful and chirpy graphics, coupled with its groundbreaking sandbox game design ensured that both critics and ZX Spectrum owners alike flocked to the tale of Eric and his incriminatory report. A year later a Commodore 64 version appeared and was met with a little more indifference, probably because of its Spectrum-esque graphics and roots. With Microsphere busy on a sequel, *Skool Daze* failed to make it to the Amstrad CPC until a 2015 homebrew effort. The Spectrum-only sequel, *Back To Skool*, proved just as popular, adding a girls' school and a neat twist on the plot of the original, as Eric must place his forged report into the school safe in order to avoid another telling off.

Back To Skool (and its spiritual follow-up, *Contact Sam Cruise*) raised the bar, yet it was with 1984's *Skool Daze* where the mould was well and truly broken. With its then-complex layers of interaction, and the ability to move freely within a living and breathing world, most gamers found entertainment with going about their day as normal, avoiding lines and just having fun immersing themselves in school life. Microsphere may have called time after *Contact Sam Cruise*, yet it leaves behind a game that is not only hugely compelling but also, in many ways, a definition of the plucky nature of the ZX Spectrum itself. Now which one of you scoundrels wrote that rude word on the blackboard!? ✱

DEVELOPER Q&A

We talk to Roger Hulley of Alternative Software about Skool Daze and Alternative's remake, Skool Daze Reskooled

Why did you choose *Skool Daze* for re-release back in 1987?
We looked for quality games that had received good reviews, and some that had not got the shelf space they should have through lack of distribution and so on. The Microsphere catalogue was a little different as several of their titles had already been released at a budget price, and on compilations. But I was very keen on *Skool Daze* and as such thought we could give it a further lease of life within our range.

Did you contact Microsphere directly?
Yes, I called Helen and Dave and asked if they would like to sell the game. Dave was surprised at my interest as first as he thought it had run its course. During the call he also mentioned that he was planning to pull out of developing games altogether, so I asked if we could buy all his games. We discussed a price, and a deal was done.

What do you think makes the original such a classic?
It was such an original idea at the time, indeed one of the first sandbox games. To have fun you didn't need to beat the game, you could just live and play around within its own small world, causing mayhem and mischief and blaming it on the other characters. Plus of course you could write rude words on the blackboards. We can now safely say it was years ahead of its time.

Why did you change the cover?
We were keen to give it a new lease of life so [we] decided to move away from the *Tom Brown's School Days* look and give it a more cartoony and wacky cover. It worked; it went back to number one on the budget chart and hung around the top 30 for some time.

Why did you choose to go down the route of remaking *Skool Daze*?
Well if you're going to do a remake, it might as well be for a true classic, as is the case within the film and music industries. And of course it's one of my very favourite games.

What can gamers expect to find in your new version?
We have kept most, if not all, of the original characters and puzzles, including one or two more tasks. Plus *Skool Daze Reskooled* also includes the remake of *Back To Skool*, and an new additional game called *Nu Skool*.

Finally, does Alternative have any plans for more remakes of Spectrum classics?
Yes, we would love to, if this one does well.

SKOOL DAZE FACT FILE

Take notes, there might be a test!

- There have been several remakes of Skool Daze, most notably the PC game, Klass Of 99.
- Skool Daze's success led to budget re-releases from Elite on its £2.99 range and Alternative, as well as compilation appearances such as Beau Jolly's 10 Computer Hits.
- The game loops around until the player either accrues 10,000 lines or contracts the mumps.
- In addition to the mumps and pea-shooter events, a 'mob' of the smaller children, attacking anyone in sight, can sometimes riot on the ground floor.
- In the days before the internet, an encyclopaedia was a player's best friend in solving the game's battle date riddle.
- An inspired piece of game design was the ability to write on the blackboards. Of course, no one ever typed in rude words...
- Points in Skool Daze are awarded for feats of naughtiness, activating shields and getting your friends into trouble.
- Disenfranchised with the rampant pirating of their products, the Reidys left games development after Contact Sam Cruise, which sold poorly despite glowing reviews.
- With neither Dave or Helen Reidy particularly proficient at graphics, artist Keith Warrington joined the team to design the game's look.
- The game features a novel speed loader and a neat border effect that flashes in time with its opening ditty.
- Skool Daze came in at number 23 in Your Sinclair's readers' top 100 games list, with its sequel featuring at number eight and Contact Sam Cruise at 66.

THE MAKING OF The EIDOLON

After joining Lucasfilm Games and helping out with Rescue On Fractalus!, Charlie Kellner repurposed the game's engine for a new project. Charlie tells us how this innovation paved the way for his fantasy shooter, The Eidolon

Words by Rory Milne

IN THE KNOW

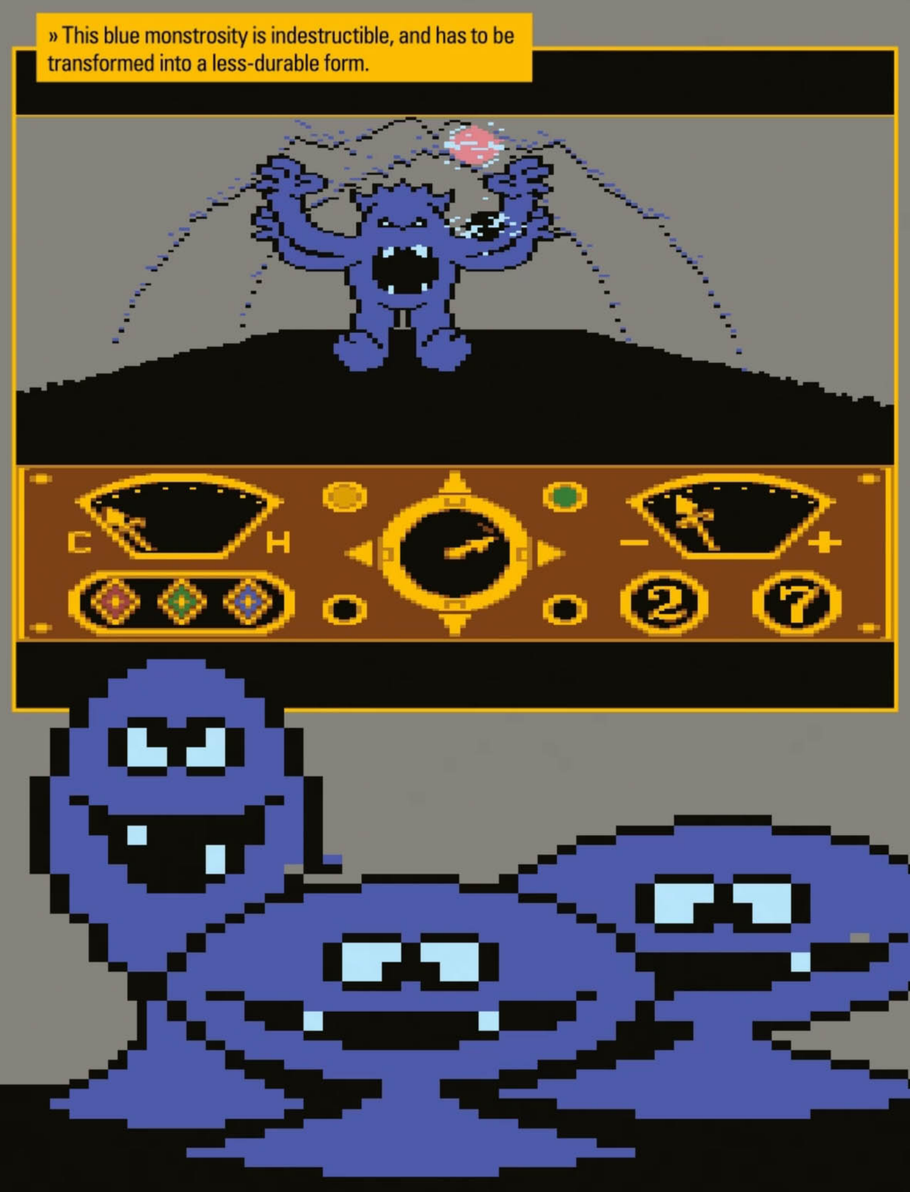
- **PUBLISHER:** Activision
- **DEVELOPER:** Lucasfilm Games
- **RELEASED:** 1985
- **PLATFORM:** Various
- **PLATFORM:** First-person shooter

In 1983 Apple Computer, Inc was preparing to usher in an exciting new era for personal computers in the shape of a product called the Macintosh. However, one of the team members developing software for the system, Charlie Kellner, had received an invitation that would lead to an even more exciting career. "I was working for Apple at the time, and had learned some things about how to speed up 6502 code," Charlie says of his time with the renowned tech firm. "I was invited to a party by David Fox, and he handed me his new business card, which said: 'Lucasfilm Games'. I just did a double-take, I said: 'What use does George Lucas have for videogames?' But it sounded really exciting, and Lucasfilm invited me over for an interview and hired me. My first task was to help Loren Carpenter to speed up his fractal drawing routine for *Rescue On Fractalus!*. After *Rescue*, we were looking for other things to do with it, and I figured out a way to turn the mountains upside down to generate caves."

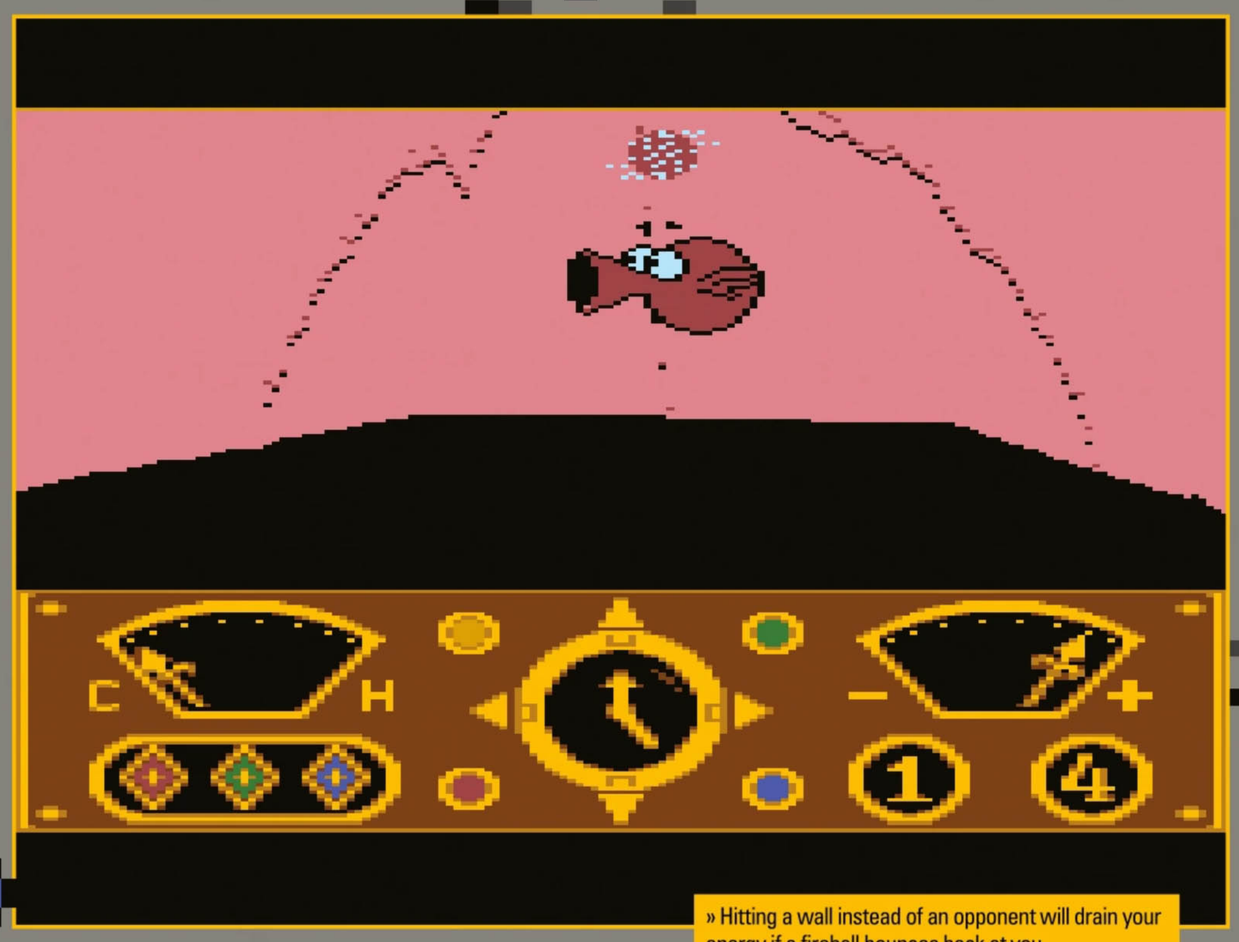
Of course, Charlie's first-person cave systems required some actual gameplay, and so the coder wrote up his initial thoughts in a design document with the placeholder title: *The Dragon Game*. "It was a tournament with a dragon versus a knight, where you played the dragon," Charlie remembers. " But the problem was that it needed a lot of scenes. At minimum, it would need the caves – which were the dragon's home, a maze, some sort of open field – where he would do jousting, and a castle – where he would get stuff and bring it back to his lair. But the number of scenes gradually diminished as we realised that we were very limited in how much artwork we could do and how much time we had to do the coding. It eventually got down to just caves, but just a dragon walking around caves didn't seem very interesting, so we created a whole bunch of interesting creatures, and I put a sci-fi shell around it with a nod to HG Wells."

An additional change saw the makeshift title *The Dragon Game* replaced with something that Charlie felt better reflected his evolving project's visuals and its Victorian theme. "I'd been fascinated by mythology for what seemed like my whole life," Charlie recalls, "and there were certain words that I stumbled upon while I was reading. One of them was 'eidolon,' which is an imaginary image that carries power. Basically, that was what we were doing with the computer graphics; they

» The odd-looking Grep avoids conflict, but you have to dispatch him to obtain his jewel.



» This blue monstrosity is indestructible, and has to be transformed into a less-durable form.



» Hitting a wall instead of an opponent will drain your energy if a fireball bounces back at you.

"The Eidolon's control panel was a little cryptic, but the idea was that after playing once or twice you understood what each gauge did" Charlie Kellner

» Charlie Kellner was the driving force behind Lucasfilm's innovative first-person adventure/shooter.

were insubstantial images that were meaningful, and you needed to interact with them. '*Eidolon*' also suggested to me some sort of steampunk-powered machine that you could travel in."

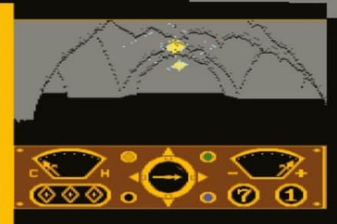
But in order to portray this Victorian craft within a first-person engine, its depiction had to be limited to a control panel covered with dials and gauges. "The look of the *Eidolon*'s control panel wasn't really intended to be sophisticated," Charlie argues, "it was Victorian style, in keeping with the genre in which the game was set. Back in those days, players would usually determine what a certain gauge did by how it was affected by the gameplay. People didn't usually read the manual, they just launched in and played the game. So the *Eidolon*'s control panel was a little cryptic, but the idea was that after playing once or twice you understood what each gauge did."

» Blue fireballs freeze time, which is useful in your race against the clock.

As well as the *Eidolon*'s control panel, further design duties awaited Lucasfilm Games artist Gary Winnick, who subsequently struck upon a brilliant solution for creating creatures for Charlie's game. "Our characters were done by cell animation, where the body, legs, tail, wings and head were all separate pieces," Charlie reveals. "Each creature was maybe ten different pieces of animation that all needed to be drawn on top of each other every frame. That was the only way we could store that many graphics in the available memory. We didn't have proper drawing tools at the time, so our artist Gary Winnick drew outlines of the characters on pieces of celluloid film that he would tape to the game monitor, and then use the joystick to colour in the pixels underneath. He was able to optimise the graphics on the screen because he could make every pixel count."

Gary's creations combined sci-fi, fantasy and the surreal, and included everything from trolls to houseflies with helicopter rotors, but equally important were the dragon bosses he designed. "Gary was into dragons, and I guess I was too, so dragons wound-up being a natural inclusion," Charlie reasons. "We tried to make the dragons as diverse as we could. Each one looked different, and they represented a different kind of magic, but I guess that didn't really come off in the gameplay. The story was that an inventor was exploring the depths of his own mind, and that the dragons represented the limitations that he thought were stopping him from succeeding, so he would need to use different strategies to defeat each one."

However, Charlie's innovative animation engine placed limits on the strategic elements of *The Eidolon*'s boss fights, and so he devised a system where firing blindly would result in fireballs ricocheting off bosses' projectiles and back at the player. "It was a way to make the contest seem fair," Charlie points out. "You couldn't just walk up to the dragons, shoot them and win, you had to use strategy. We had a very limited amount of dodging that you could do, but you could aim and decide where and how to hit them. They didn't move around, but that was mostly a limitation



THE EIDOLON 101

■ Although it doesn't feel like an FPS, *The Eidolon* is depicted using a first-person perspective and shooting its surreal characters is a core objective. Exploration of *The Eidolon*'s sprawling caves is equally essential, as is experimentation to determine the effects of your coloured fireballs.

HERE BE DRAGONS!

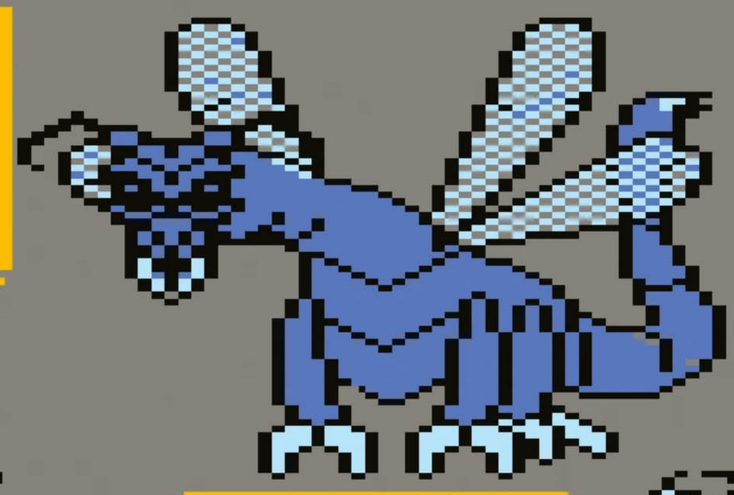
How to beat The Eidolon's eight dragon bosses

LEVEL 1

■ You need the red jewel to breach the first dragon's lair, which takes a bit of exploration to find, then blast the boss with three red fireballs before he retaliates.

LEVEL 2

■ A green jewel is required to enter the domain of the second boss. Once in battle, fire off yellow fireballs, collect what's fired back and repeat until four shots connect.

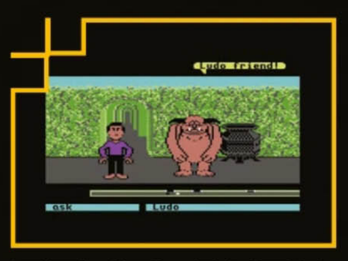


LEVEL 3

■ Find a blue jewel before locating level three's dragon. When he fireballs you collect all you can, then between volleys fire green fireballs. Five hits will bring him down.

LEVEL 4

■ Collect red and green jewels to enter the fourth stage's arena. Maintain half your energy by collecting the boss's fireballs, and land six blue fireballs to beat him.

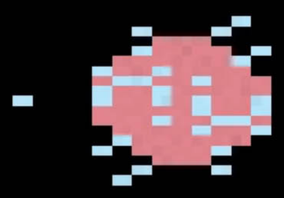


DEVELOPER HIGHLIGHTS

RESCUE ON FRACTALUS
SYSTEM: VARIOUS
YEAR: 1984

THE EIDOLON
SYSTEM: VARIOUS
YEAR: 1985

LABYRINTH (PICTURED)
SYSTEM: VARIOUS
YEAR: 1986



▶ of the graphics, as it cost everything we had in the storage of the game to be able to put all of those different dragons on the screen."

Additional concessions followed, including plans to have multiple creatures moving around the screen, which proved too much of a stretch for Charlie's animation routines. "I tried hard to get these variably-sized creatures to be as fast as possible and managed to get them up to one-quarter of the speed of a fixed-size drawing, which was pretty fast considering," Charlie ponders. "But still, it was barely fast enough to have one creature on the screen at a time. Of course, we had no hardware assist at all, so it was a battle to try and make something that was moving fast enough that you could actually have fun playing."

Another concept was scaled back rather than being dropped altogether, which started out as peaceful character interaction and ended up with creatures that were docile until fired on. "The idea was that any creature would try to defend itself when it was attacked, but you didn't necessarily need to attack it," Charlie explains. "We were trying to extend the whole idea of computer games; we wanted our games to be more film-like than you had seen before. There wasn't any way we could give players a movie-like experience on such a small screen with such a small processor, but to the extent that we aspired to it I felt that we made it a better game."

A design decision of a different sort revolved around the difficulty of *The Eidolon*, which Charlie resolved by carefully gauging the challenge of the game's cave systems. "It was a constant battle between simplifying the game and making it complex enough to be interesting," Charlie concedes. "So I chose to make the mazes complex, but not too complex, so that you could solve them by wandering around. The caves were actually random. There was a cave-building routine in there that would generate caves. The idea was that we wanted to have an algorithm that could generate caves that were difficult to explore because they were different each time."

But while Charlie's code rendered distinctive caves for each of *The Eidolon*'s core stages, the designer took inspiration from the arcades when it came to designing the game's final level, and its boss ended up being just as unique. "One of the other games that I found fascinating back in that day was *Tempest*," Charlie enthuses. "There was a level high up where the grid that the creatures were climbing around on was invisible. So I wanted to have a level in *The Eidolon* where the

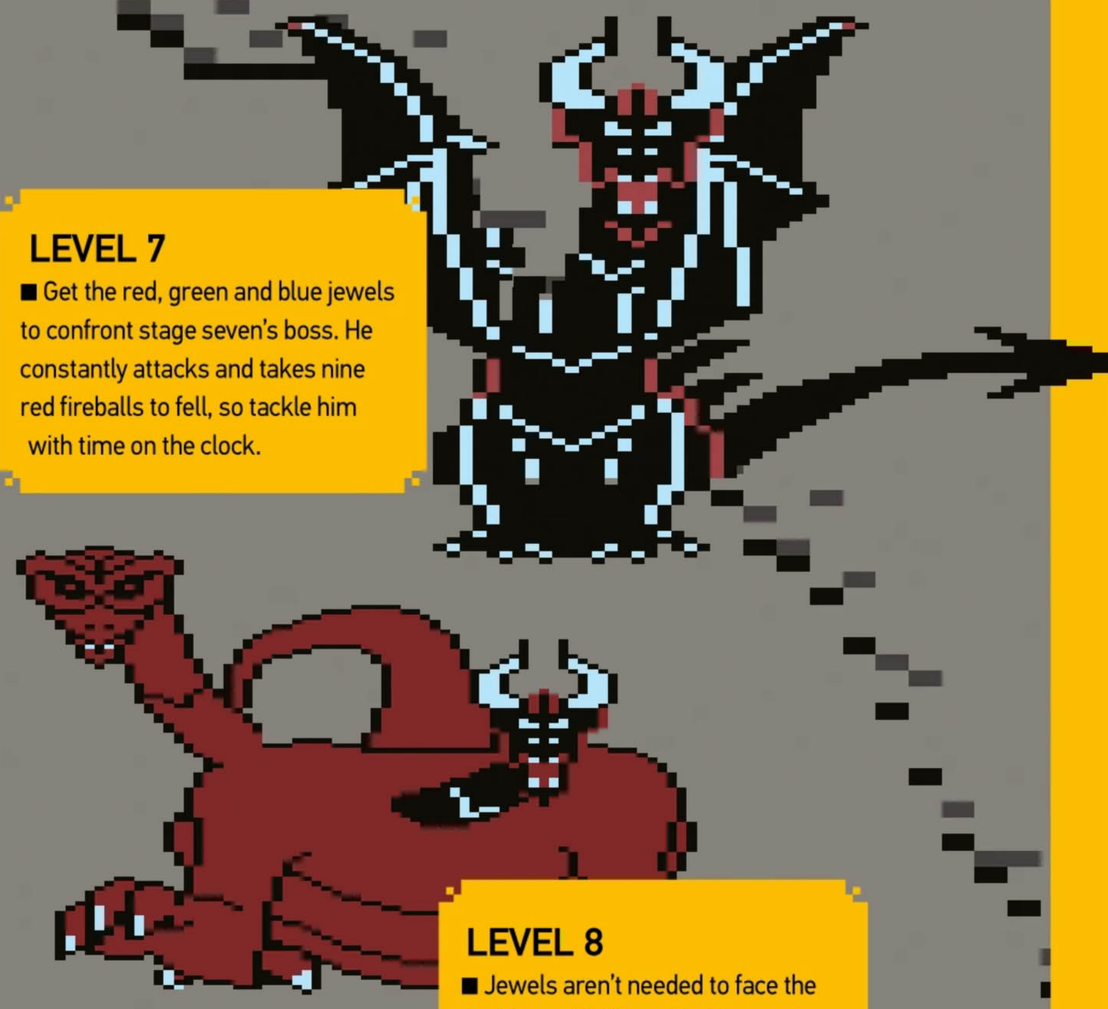
» The surreal nature of *The Eidolon*'s gameplay is matched by its equally strange animated ending.

LEVEL 5

■ Use blue and green jewels to unlock level five's boss. Land yellow fireballs when he rests, until he's taken seven, and collect return fire when you're not blasting.

LEVEL 6

■ Red and blue jewels get you access to the sixth boss. Eight blue fireballs will topple him, but they eat through energy, so fire two, collect enemy fire and repeat.



LEVEL 7

■ Get the red, green and blue jewels to confront stage seven's boss. He constantly attacks and takes nine red fireballs to fell, so tackle him with time on the clock.

LEVEL 8

■ Jewels aren't needed to face the final boss. Hit him with this sequence of fireballs, changing colour each time he does: red, yellow, green, blue, yellow, blue, red.

"You couldn't just walk up to the dragons, shoot them and win; you had to use some sort of strategy"

Charlie Kellner

cave maze was invisible, and you could only find your way around it by bumping into the walls. We wanted the final boss to be a tough opponent, so we had a multiheaded dragon, and that was a real animation nightmare. But Gary did a wonderful job, and it wound up being bewildering to look at considering the limitations of our graphics."

The *Eidolon*'s stunning visuals, not to mention its hybrid genre gameplay, also drew praise from magazine reviewers and players when it came to the game's release, but Charlie's memories of *The Eidolon*'s reception are incredibly humble. "Really the excitement about *The Eidolon*'s graphics was down to Gary's extraordinary artwork," Charlie remarks. "I was really worried about the game being a total flop because I wanted to do so much with it and wound up, in my opinion, doing so little. So I was just really thankful that people liked it."

Time has given the developer a different perspective, however, and although there are aspects of *The Eidolon* that Charlie would change given hindsight, he ultimately has nothing but pride for his team's creation. "I think it wouldn't have cost very much to make the dragons move around a bit," Charlie notes, "and I would have tried to make a more meaningful combat system. I definitely would have made a more peaceful way of interacting with the other creatures. But looking back on *The Eidolon* after so many years, I'm proud of what we did. I think it's kind of amazing that we were able to do that much back then with those machines. Our little team of pioneers loved to try the untried and to explore what was possible, and I think that everyone that was involved with *The Eidolon* can be proud of it."*

CONVERSION CAPERS

A comparison of the various Eidolon ports

C64

■ The C64 *Eidolon* was produced in-house, so unsurprisingly it plays just like the original. It has different rather than better sound effects than the Atari version, and its control panel isn't as attractive when time is frozen, but the visual effect it renders when you find a dragon's lair is more aesthetically pleasing.

APPLE II

■ Another Lucasfilm Games adaptation that faithfully translates the original's design. The Apple II's less-powerful hardware restricts the port to lower-res, less colourful graphics, single-channel pregame music and less impressive sound effects, but more importantly it runs just as fast as its Atari counterpart.

AMSTRAD CPC

■ One of four conversions handled by UK developers Tony Adams and Tony Porter, the Amstrad *Eidolon* is slower than its Atari inspiration, but on the plus side it's rendered with a brighter palette. The CPC adaptation plays a nice rendition of the original's intro music, but its sound effects are far more basic.

ZX SPECTRUM

■ Like the Amstrad iteration, the Spectrum *Eidolon* runs a little slower than the original. Also in keeping with the CPC version, the Spectrum port retains the Atari game's high-res visuals, although predictably it uses less colours. That aside, the ZX *Eidolon*'s only failing is that each level has to be loaded in separately.

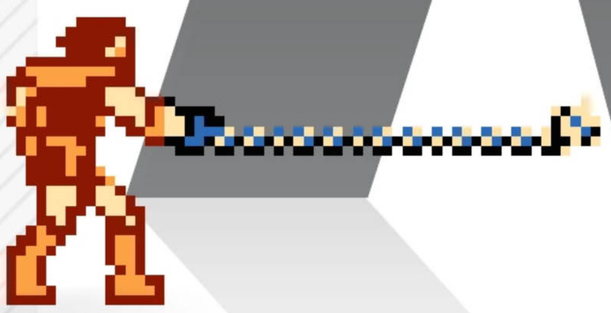
MSX2

■ Despite lacking speed, although no more than the CPC and Spectrum versions, the MSX2 *Eidolon* is a good translation of the original in terms of visuals and its opening tune. It's shy of a few sound effects, which leads to spells of silence, but its gameplay is identical to the Atari original.

PC-88

■ Although not perfect, the PC-88 *Eidolon* is just as fast as the original. Its drawbacks are that it lacks colour in certain places, doesn't quite match the Atari version's sound effects and suffers from flickery character animation. These minor quibbles aside, the PC-88 conversion feels and plays just like its inspiration.

50 YEARS OF KONAMI



FROM ARCADE INNOVATION TO MASTERY OF LICENSED GAMES AND HOME CONSOLE EPICS, **KONAMI** HAS CEMENTED AN INDELIBLE LEGACY IN THE GAMING BUSINESS. WE LOOK BACK AT THE COMPANY'S MAJOR ACCOMPLISHMENTS

Words by Nick Thorpe

Sometimes, a company can mean many different things to different people – and in Konami's case, we'd argue that it's just a sign of success and longevity.

You might know it as a producer of excellent licensed beat-'em-ups, or a leading light in music games. You might have grown up putting coins into *Scramble* and *Frogger*, or the Konami Code into *Gradius* and *Contra*. If asked what the defining Konami series is, you could answer *Castlevania, Metal Gear* or *Pro Evolution Soccer* and back any of those options up with a credible argument.

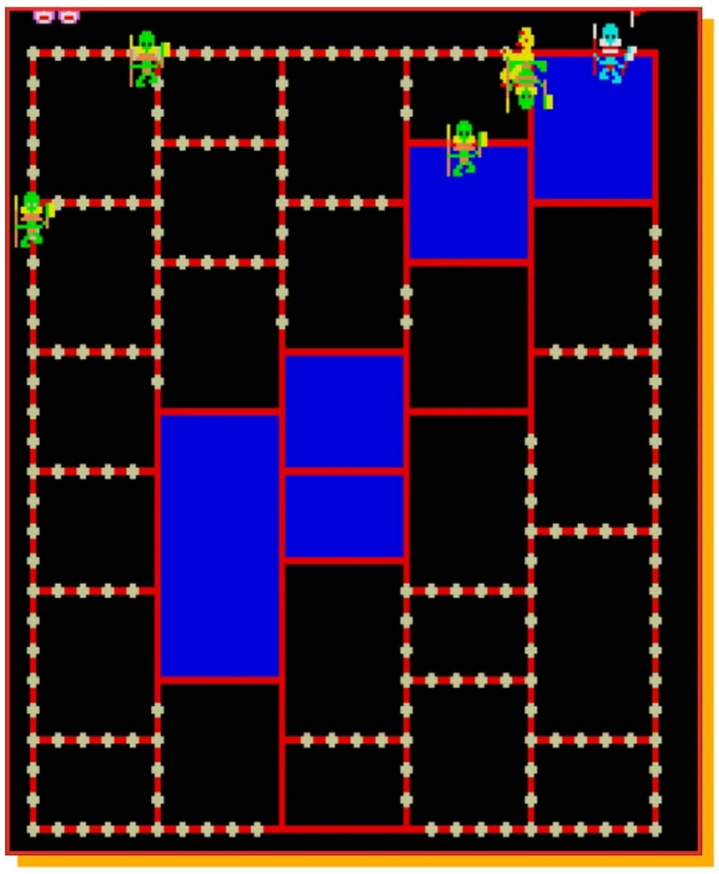
Konami's roots go back to 1969, when it was founded by current Konami chairman Kagemasa Kozuki as a business renting and repairing karaoke machines. The company was fully incorporated as Konami Industry Co, Ltd in 1973, when it shifted its focus to the general manufacture of amusement machines. Many of its earliest videogames were simple shooting and block games, but the company's developers started to implement their own original ideas and broaden the possibilities of gaming. It's arguable that Konami's breakout year was 1981, when it massively increased the number of videogames it released and scored some major arcade hits as a result.

One of the big releases was *Frogger*. "It looked colourful, sounded cheerful, and was popular. However it was proper difficult, and super sneaky," remembers Paul Davies, former editor of *C&VG*. "I remember being hacked off by the sinking turtles and quickly deciding that I wasn't smart enough to endure the challenge. When the crocodiles appeared that was me out. Dastardly." Jaz Rignall, another veteran games writer known for his tenure as the editor of *Mean Machines*, was a fan of the game. "I recall feeling that the frog was really vulnerable because it had no way of protecting itself – it was a game all about avoidance. That made it completely different to pretty much everything else out there at the time." The gameplay wasn't the only thing that made it distinctive, either. "Something else I noticed – and this is anecdotal - but a lot of female gamers in my local arcade really enjoyed playing *Frogger*. Along with *Pac-Man*, *Frogger* seemed to have that quintessential *je ne sais quois* that gave it broad appeal to gamers of all ages and sexes."

» Konami veteran Nobuya Nakazato is known for his work on the *Contra* series.

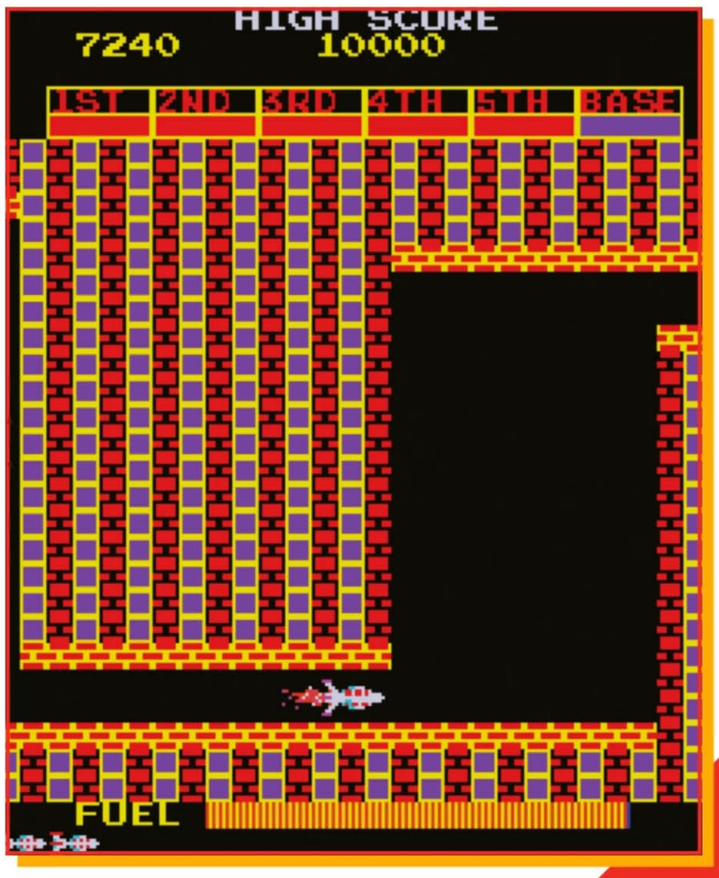
Nobuya Nakazato, a veteran of Konami who has worked on games such as *Rocket Knight Adventures*, *Contra: Hard Corps* and *Vandal Hearts*, is less clear on his introduction to the company's work but names two of the company's other big 1981 releases. "I don't have a clear memory, but probably the arcade games *Amidar* or *Scramble*," he explains. "In particular, *Scramble* is the one that established the genre of belt scrolling shooting games and it really amazed me at the time." The game was a big leap forward for shoot-'em-ups thanks to its distinct stages and forced scrolling, which were quickly incorporated into other games in the genre. The company was firmly established in the market and followed up with a string of hits in diverse genres. "Purely based on my personal nostalgia, I think the early to mid-Eighties was a the greatest period for Konami games," says Jaz. "They produced some absolutely amazing coin-ops that featured really interesting and unique gameplay innovations - titles such as *Frogger*, *Pooyan*, *Guttang-Guttong*, *Track & Field*, and *Nemesis* were all highly original and great fun to play."

This success allowed Konami to move into the market for home games in 1983, with a number of proven arcade hits converted to the new MSX home computer, as well as the original *Antarctic Adventure* – a game that combined the faux-3D action of racing games with a cute



» *Amidar* was an early hit for Konami, at a time when the maze game genre was booming.

» Many of Konami's early hits including *The End*, *Scramble* and *Gyruss* (pictured here) were shoot-'em-ups.



» *Scramble* was a significant evolution of the genre and was succeeded by *Super Cobra*.

KONAMI COMPILED

If you're looking to sample Konami's library, try these five compilations

KONAMI ANTIQUES MSX COLLECTION ULTRA PACK

SATURN

■ After three PlayStation compilations of ten games each, lucky Saturn owners got this huge compilation of 30 early Konami games. Many are arcade conversions, but you'll also find MSX originals including *Penguin Adventure* and the first *Parodius*. Sadly, it was a Japanese exclusive.

GRADIUS COLLECTION

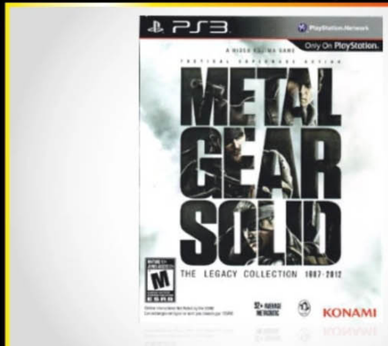
PSP

■ This compilation includes *Gradius*, *Gradius II*, *Gradius III* and *Gradius IV*, as well as the excellent PlayStation game *Gradius Gaiden*, which hadn't previously been released outside of Japan. Similar PSP compilations also covered the *Salamander*, *Parodius* and *TwinBee* series, but were only released in Japan.

KONAMI ARCADE CLASSICS

DS

■ This compilation includes 15 of Konami's Eighties arcade hits, such as *Scramble*, *Time Pilot*, *Yie Ar Kung-Fu*, *Green Beret* and *Contra*. As well as the games themselves, you get a good deal of information to provide historical context – not a surprise, as the development was handled by the excellent M2.



METAL GEAR SOLID: THE LEGACY COLLECTION

PS3

■ This compilation covers most of the *Metal Gear* series, including both of the MSX2 games, the first four *MGS* games, *VR Missions* and *Peace Walker*. The games are delivered across two discs, but *Metal Gear Solid* and *VR Missions* are provided as download codes.

> "I HAVE THE IMPRESSION THAT KONAMI HAD THE GLOBAL MARKET IN MIND WHEN DEVELOPING MANY OF THEIR GAMES"
>
> Nobuya Nakazato

penguin character. Konami also moved into the burgeoning console market by releasing its first Famicom games in 1985, making it one of the first companies to be granted a publishing licence by Nintendo. The company's choice of target platforms truly maximised its audience, as the MSX became very popular in the Japanese market and Nintendo gained a virtual monopoly on the console market.

By getting into those platforms as they were growing, Konami was able to grow as they did, and combined with its arcade successes, the company was able to expand throughout the early Eighties. The company had begun the decade with ¥40 million in capital, and after a March 1982 investment from Osaka Small and Medium Business Investment & Consultation, that became ¥120 million. Konami opened its American office in November 1982, and by November 1983 the company had ¥300 million in capital. 1984 brought even further growth as Konami opened offices in the UK and Germany, and the company was listed on the Osaka Securities Exchange in October. From there, Konami's growth rate went from rapid to explosive – the company's capital was ¥2.9 billion in October 1984, ¥5.2 million the following November and ¥8.1 billion by November 1986.

Konami began to expand its slate of properties with new titles, many of which would go on to become long-running series. In the arcades, *TwinBee* started a lengthy line of cute-'em-ups and *Mr Goemon* set the stage for the console *Mystical Ninja* series. *Salamander* spun off from *Gradius*, and both made an impact on the NES and other home systems. But the biggest of the lot was *Castlevania*, which introduced us to the Belmont clan of vampire hunters. The initial game was a straightforward horror-themed platformer, but subsequent entries in the series became more elaborate by incorporating alternate routes, character-swapping and eventually large nonlinear maps and RPG elements. Although the series has been dormant for a few years now, it remains beloved by gamers and is a popular Netflix series too. "I still think the series is a very important one for the company," says Jaz. "The series has definitely had its ups and downs over the years – as you'd expect with something like 30 different releases over the past almost three decades – but overall, the *Castlevania* line has delivered some really memorable moments, especially during the 8-bit and 16-bit periods."

Nakazato joined the company during this period of rapid expansion. "I was an artist and I found the graphics quality of Konami games really impressive," he explains when asked why he found Konami to be an attractive employer. "After I joined Konami, I realised they did in-house development of graphic tools (including hardware) implemented with pen tablet input. Considering the standard for graphic production still used a mouse and keyboard, it was very advanced for the time."

» *Castlevania* quickly became one of Konami's most popular games, as it arrived with most of its key ideas intact.

CASTLEVANIA ANNIVERSARY COLLECTION

VARIOUS

■ This release contains eight games – the first four games in the series for NES and SNES, plus two Game Boy games, the Mega Drive game and the previously Japan-only NES version of *Kid Dracula*. There's plenty of historical material included, too.

» Who's that in the crowd? Why, it's Penta! Konami games often reference one another.

Nakazato also felt that the company's advanced tech was matched by its ambitious developments. "I have the impression that Konami had the global market in mind when developing many of their games and gave them a sense of movie-like realism. Also, since the industry was new at that time, the average age of employees was very low and our bosses and department heads were much younger than I am now. In this way, the company had bombastic energy."

Konami definitely had an 'all hands on deck' culture back in the late Eighties. "Nowadays, there are many companies that specialise in debugging games, but at the time no such company existed, we didn't even have a department dedicated to it ourselves," Nakazato explains. "It was normal for the development team to check the game they had worked on themselves. In fact, especially new employees were tasked with checking all the games within their division as part of their training." This meant that in addition to his duties as a graphic artist, Nakazato spent plenty of time as a tester. "I belonged to the development team of *Teenage Mutant Ninja Turtles* (NES version), but I helped out with the debugging of many titles such as *Bayou Billy*, *Gradius II* and *Blades Of Steel*. I look back on it as a very valuable experience."

But it was with the emergence of the next generation machines that Konami made another giant leap. Nakazato agrees that the machines of the 16-bit era were important not just for Konami, but gaming as a whole. "I think they played a vital role in ensuring that game consoles, which first started in the 8-bit era, were not forgotten as some passing fad but instead became a more long-lasting form of entertainment." Despite this, Konami wasn't incredibly quick to leap on new technology this time around. In part, that was because it didn't need to – while it had *Gradius III* ready for early adopters of the Super Famicom in 1990, the NES was still the machine with the

PERIPHERAL POWER

There's more to Konami than games, as its adventures in the peripheral business prove

Konami isn't the first company you'd think of as a hardware manufacturer, but it actually entered the gaming peripheral business back in the Eighties and continued to be involved in it for over two decades. One of the earliest and most surprising was the Game Master, an MSX utility cartridge that essentially functioned as an official cheating device for Konami games. However, most of its controllers were variations on the standard joystick and joypad, such as the HyperBeam wireless SNES controller and the Konami HyperStick for the PlayStation.

Some of the company's offerings have been a little bit more eccentric. The LaserScope, a voice-activated NES lightgun compatible with Zapper games, is notorious amongst fans of oddball gaming items due to its unusual concept. For some reason Game Boy docking stations were tried by more than one manufacturer during the Nineties, and Konami's HyperBoy version offered screen magnification and illumination as well as a joystick. Then there's the HyperShot, a controller with two buttons and nothing else, designed for home conversions of *Track & Field*.

But of course, most of Konami's hardware was manufactured to aid in the home translation of its arcade hits. The Justifier lightgun was created for use with the home conversions of *Lethal Enforcers*, and the Hyper Blaster was the first lightgun to be released for the PlayStation. More recently, many of Konami's special controllers were designed for music games – home conversions of games like *Beatmania* and *DDR* were accompanies by turntable controllers and dance mats. In fact, the home version of *GuitarFreaks* was even accompanied by a plastic guitar, years before *Guitar Hero*.

» The Laser Scope is, let's be honest, a odd creation. Still, how else can you fire weapons with your voice?

» The Justifier lightgun revolver was made specifically for home conversions of *Lethal Enforcers*.

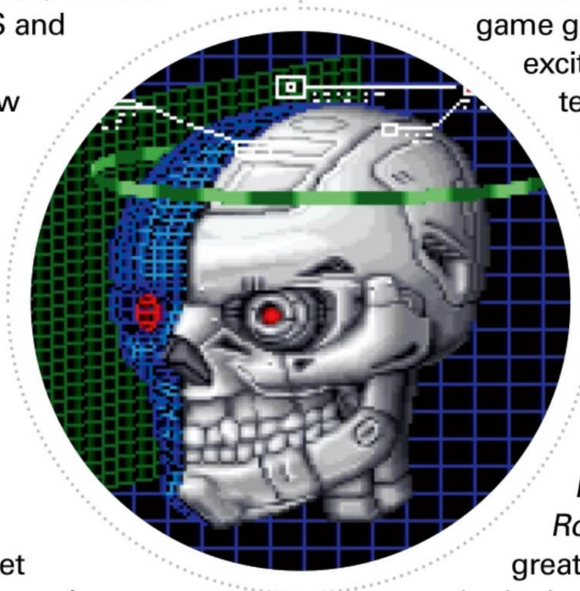
» *Contra* was a popular arcade game, but the series quickly associated primarily with consoles.

» The *Gradius* series became Konami's most popular shooting series.

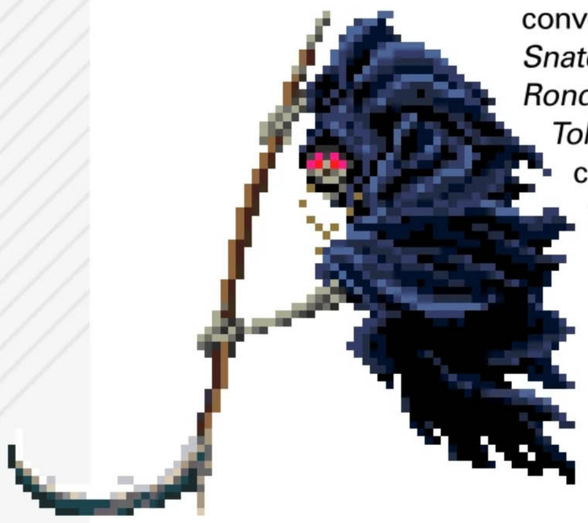
» Jaz Rignall is the former editor of *Mean Machines*.

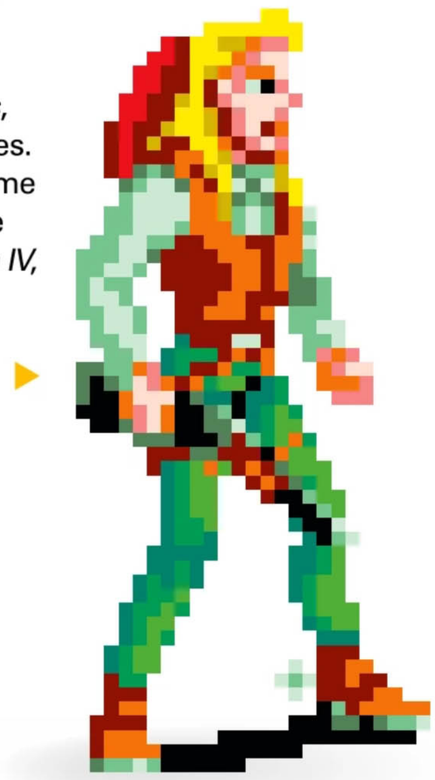
established audience and international reach. In 1991, Konami released 14 games for Nintendo's 8-bit machine, and just two for the SNES. With its commercially appealing mixture of original properties and popular licensed properties such as *Teenage Mutant Ninja Turtles*, *The Simpsons*, *X-Men* and *Tiny Toon Adventures*, Konami could afford to rely on the NES and arcades for a little while.

The other reason for the slow adoption of new console technology was that it didn't have much choice in the matter. Due to Nintendo's restrictive third party licensing contracts, Konami had been forced to wait for the SNES rather than trying out next generation systems earlier. But as legal pressure forced Nintendo to relax its restrictions and the MSX market declined, Konami was able to branch out. In 1991 the company made its debut on the PC Engine, where it delivered outstanding conversions of arcade shoot-'em-ups and *Snatcher*, plus the excellent original *Castlevania: Rondo Of Blood* and the first entry of the popular *Tokimeki Memorial* dating sim series. The company released its first Mega Drive games the next year, and would deliver major arcade ports including *Sunset Riders* and *Lethal Enforcers* as well as exclusive classics like *Rocket Knight Adventures* and *Contra: Hard Corps*. While the company had arrived about four years after each machine's debut, it delivered games that forced players to sit up and pay attention.



During this era, it seemed as though the developer was on a different level to others, which meant that the arrival of a new Konami game generated considerable press excitement. "The *Mean Machines* team had all grown up playing Konami arcade games – the company released a ton of absolute classics throughout the Eighties – so for us, the Konami name was synonymous with the good times we all had playing stuff like *Gyruss*, *Track & Field*, *Hyper Sports*, *Yie Ar Kung-Fu*, *Green Beret*, *Shaolin's Road*, *Nemesis*, and all the other great coin-ops that the company had released during that period," says Jaz. "Even in the Nineties, Konami was still manufacturing excellent coin-ops like *Teenage Mutant Ninja Turtles*, *X-Men*, and *The Simpsons*, and that prestige rubbed off on its console games. It helped that most of what they released for home systems was pretty good – I'm thinking titles like *Legend Of The Mystical Ninja*, *Super Castlevania IV*, *Tiny Toon Adventures* and *Parodius*. All were excellent and helped raise anticipation for new Konami games considerably."





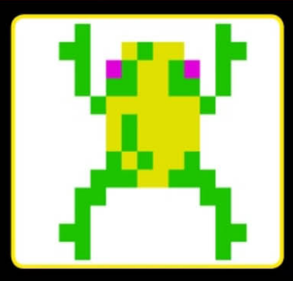
"KONAMI'S 16-BIT GAMES FELT LIKE BLOCKBUSTERS; THE HALO OR THE LAST OF US-TYPE EXPERIENCES OF THEIR DAY"

Paul Davies

CHARACTER SELECT

Konami has introduced a number of favourite characters to the gaming world over the years – here are some of the most famous

FROGGER



» **DEBUT:** 1981
» **SERIES:** FROGGER
» **LOVES:** ZEBRA CROSSINGS
» **HATES:** HUNGRY CROCODILES

■ Though most people know him for his arcade hit, Frogger was also an active star in the late Nineties and Noughties.

PENTA

» **DEBUT:** 1983
» **SERIES:** ANTARCTIC ADVENTURE
» **LOVES:** PENKO
» **HATES:** VISITING THE GYM

■ This penguin would do anything for love – he'll cross the Antarctic, find a golden apple or even go on a big diet.

MOAI HEAD

» **DEBUT:** 1985
» **SERIES:** GRADIUS
» **LOVES:** ???
» **HATES:** ???

■ We don't know where it came from. The only thing we can tell is that it seems to want to destroy Vic Viper.

GOEMON

» **DEBUT:** 1986
» **SERIES:** MYSTICAL NINJA
» **LOVES:** A GOOD SCRAP
» **HATES:** WEALTH INEQUALITY

■ Loosely based on a real-life folk hero, the lovable Goemon steals from the rich to give to the poor.

SIMON BELMONT

» **DEBUT:** 1986
» **SERIES:** CASTLEVANIA
» **LOVES:** GARLIC BREAD
» **HATES:** TAKING THE STAIRS

■ If you need a vampire killed, find a member of the talented whip-wielding Belmont family.

SOLID SNAKE

» **DEBUT:** 1987
» **SERIES:** METAL GEAR
» **LOVES:** CARDBOARD BOXES
» **HATES:** ANTI-SMOKING LAWS

■ This sneaky soldier is beloved for his combat and infiltration skills. He's also not the only Snake in the series.

BILL & LANCE

» **DEBUT:** 1987
» **SERIES:** CONTRA
» **LOVES:** MICHAEL BAY FILMS
» **HATES:** BEING SEPARATED

■ Nobody is in command here, there's no 'main guy' – just two impressively muscular soldiers.

SPARKSTER

» **DEBUT:** 1993
» **SERIES:** ROCKET KNIGHT
» **LOVES:** SMOKY BACON
» **HATES:** FUEL COSTS

■ This jet pack-wearing opossum was the star of Konami's contribution to the mascot platformer genre.

SHIORI FUJISAKI

» **DEBUT:** 1994
» **SERIES:** TOKIMEKI MEMORIAL
» **LOVES:** YOU, POTENTIALLY
» **HATES:** BEING IGNORED

■ Shiori is your friend, but she's pretty demanding – if you want to date her you'll need to be great at everything.

POWER PRO-KUN

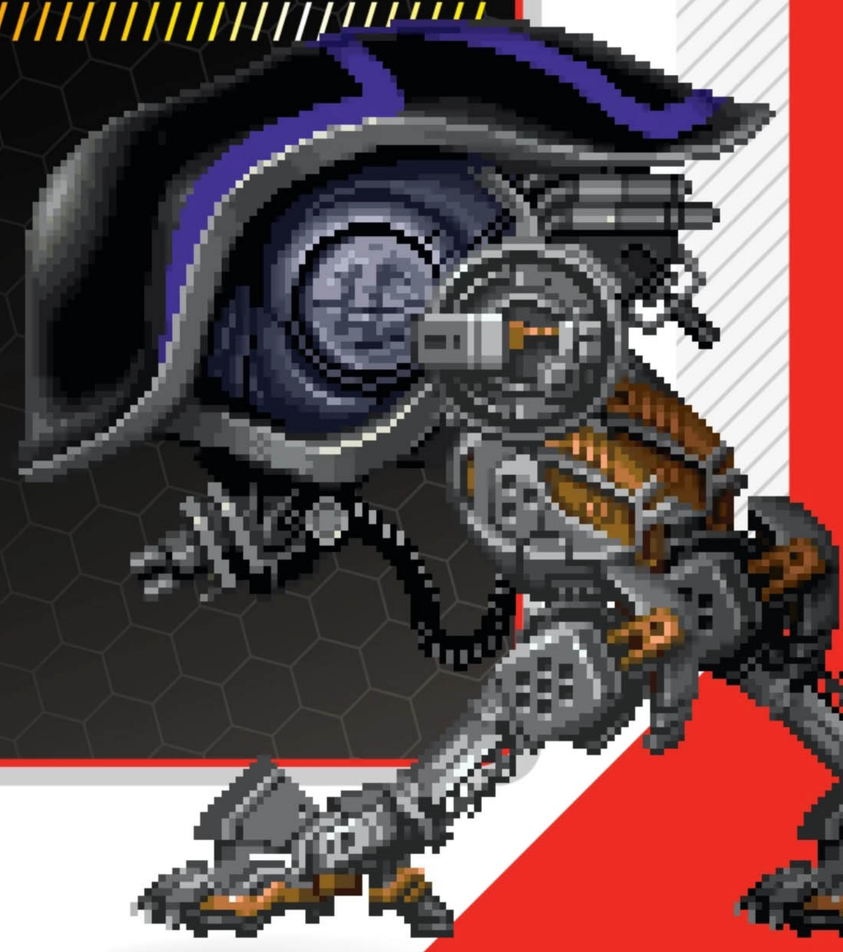
» **DEBUT:** 1994
» **SERIES:** JIKKYOU POWERFUL PRO BASEBALL
» **LOVES:** CYBORG TECHNOLOGY
» **HATES:** CARELESS DRIVERS

■ The aspiring ace of this baseball series isn't one character, but many.

PYRAMID HEAD

» **DEBUT:** 2001
» **SERIES:** SILENT HILL
» **LOVES:** MANNEQUINS
» **HATES:** YOU

■ He's big, he's strong and worst of all, he's almost certainly born from your subconscious thoughts.



» *Blades Of Steel* proved Konami could excel in any genre.

» Konami showed it could handle licensed properties well, with classics like *The Simpsons*.

"Konami's 16-bit games felt like blockbusters; the *Halo* or *The Last Of Us*-type experiences of their day. You'd be dusting off the office thesaurus to search for words to describe them, they were so ambitious," says Paul. "*Contra III* and *Super Castlevania IV* especially were epic quests, beautiful to look at, incredible soundtracks, bursting with ideas, perfect in execution. Even brighter titles such as *Tiny Toons*, *Parodius* and *TwinBee* were immaculate. Whatever that formula was, it was impossible for others to imitate. They were momentous, each one, and so rewarding to play – to put the time and effort into mastery." How does Nakazato feel about the high esteem in which Konami's games were held during this time? "Hearing that brings a smile to my face, and I hope that we will continue to be seen that way by fans for the next 20 or 30 years," he says.

For all the success that Konami was experiencing on consoles, it was still an arcade game manufacturer, and that's where its next major hit series would begin. *Beatmania* thrilled players in Japanese arcades by giving them the chance to play DJ, and the company was right on the forefront of the boom in music games. The company quickly followed up *Beatmania* sequels as well as new games such as *Guitar Freaks* and *DrumMania*, all tied together under a wider Bemani brand. "I *loved* how happy this entire series made people feel. The game centres/arcades were transformed. I did feel like a complete prat hopping around on them myself, but would have such admiration for those that got everything right," says Paul. "It was surprising how swiftly the crowds warmed to the idea of music-oriented coin-ops, and how genuinely 'edgy' and exciting it was when Konami started making versions for the consoles."

» Games like *Axelay* were graphically outstanding.

The most popular games in the series would ultimately prove to be *Dance Dance Revolution* – or *Dancing Stage*, in its early European releases – and *Beatmania IIDX*. "My fondest memories, though, are of the game *Pop'n Music* because I loved Puffy AmiYumi so much at the time," says Paul. "In the Nineties, you could allow yourself to have whole-hearted fun, as though nothing else mattered. Konami made the world a better place with that series." The Bemani division is still active within Konami and accounts for much of its modern arcade output, so *Pop'n Music* also continues to this day, alongside newer games such as *Jubeat*, *Sound Voltex* and *Nostalgia*.

In the home, Konami was a dependable presence on Saturn and N64, but did its best work of the late Nineties on the PlayStation. The company was turning out great games in existing series like *Castlevania: Symphony Of The Night*, *International Track & Field* and *Gradius Gaiden*, as well as excellent original games such as *Suikoden* and *Vandal Hearts*. Beside those games, the company set itself up for the next generation by transforming one series, reviving another and starting a third. The transformed series was International *Superstar Soccer*, which underwent

CRACKING THE CODE

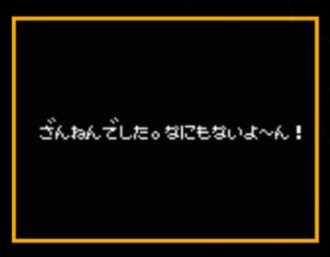
The most famous cheat code in gaming was born in Konami's titles – but what it actually does changes depending on the game you're playing. Here's a look at some of the things it can do

GRADIUS
NES

■ This was the first game to introduce the code, and using it confers awesome destructive power upon Vic Viper by giving it a full set of power-ups.

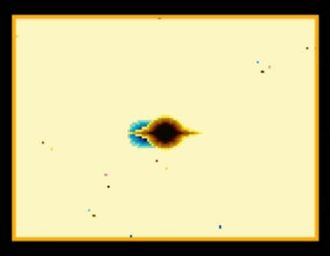
CONTRA
NES

■ This arcade conversion was one of the most famous games to include the code, as it gave the player 30 lives with which to surmount its mighty challenge.



KID DRACULA
NES

■ By this point, Konami was wise to the widespread practice of trying the code to see what happened. So this *Castlevania* spin-off recognises it, but that's all.

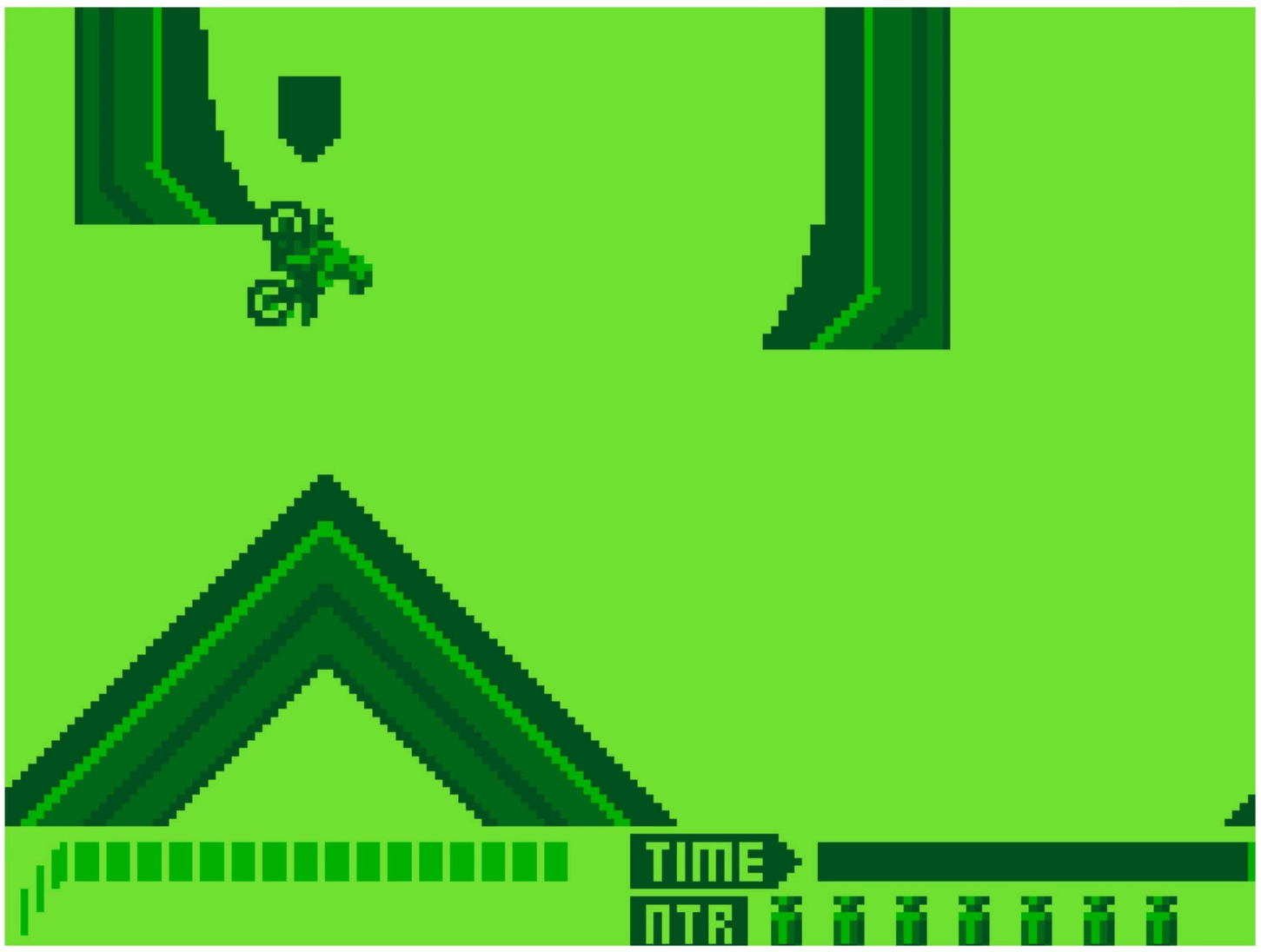


GRADIUS III
SNES

■ The code here does the same as in the NES *Gradius*, except that it also kills you instantly. Use the shoulder buttons instead of left and right, and it won't.

CASTLEVANIA: BLOODLINES
MEGA DRIVE

■ The code is normally used to make things easier, but entering it on the title screen of this game unlocks the ability to choose Expert difficulty mode.



» Konami's Game Boy output shouldn't be overlooked as games like *Motocross Maniacs* are excellent.

» Konami often made bespoke games for each 16-bit system.

» Paul Davies is the former editor of *C&VG* magazine.

"IN THAT ERA, [KONAMI] REPRESENTED SOPHISTICATION ON A LEVEL THAT MY FRIENDS AND I HAD NEVER IMAGINED"

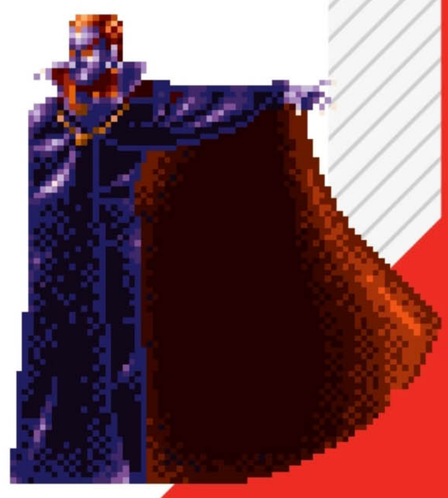
Paul Davies

a branding change to *ISS Pro Evolution* as the generation went on – ultimately leading to the retirement of the old brand in favour of the *Pro Evolution Soccer* series we know today.

Konami's biggest game of the generation was an extraordinary return for one of its old MSX properties, *Metal Gear*. The new entry in the series was a fully 3D PlayStation game that expanded the stealth gameplay of its predecessors, with a lavish production including full voice acting and cinematic cutscenes. "In that era, it represented sophistication on a level that my friends and I had never imagined nor knew that we wanted," says Paul. "It had a look and feel, and pacing, and refinement, that most of us didn't associate with videogames." The game received universal acclaim and sold very well, even receiving an expansion pack in the form of *Metal Gear Solid: VR Missions* – a rare achievement for a PlayStation game. Paul even credits it with an increase on the quality of PlayStation games as a whole. "Your game just needed to be better after *Metal Gear Solid* on PlayStation – which was great for gamers, tough on studios and publishers." The success of *Metal Gear Solid* ultimately made a superstar out of its director Hideo Kojima, who quickly became one of the most well-known developers in the business thanks to his ability to frame action and his knack for playing the publicity game.

Metal Gear Solid was packaged with a demo of a game called *Silent Hill*, which turned out to be Konami's biggest new series to debut on the PlayStation. Rather than the traditional formula of a warrior battling monsters that was employed in *Castlevania*, *Silent Hill* used a psychological horror theme. Protagonist Harry Mason was a civilian without much in the way of combat skills or athleticism, and the town of Silent Hill was a modern American town, so the setting was one that players could relate to with ease. Reviewers were bowled over by the atmosphere of the game and it went on to sell over 2 million copies, setting the scene for future entries in the series.

As a result there was a great deal of anticipation around the company's output on the next generation of systems, and Konami capitalised on this by pioneering an early form of crowdfunding. Fans in Japan could buy into 'The Game Fund', which would go towards creating *Tokimeki Memorial 3* and another game (later revealed to be *Tokimeki Memorial: Girls' Side*). It wasn't cheap to invest, as units cost ¥10,000 each and a minimum purchase of ten was required, but these were real investments. Unlike with modern Kickstarter projects, people who bought into The Game Fund were entitled to a share of the profits from the games – Mizuho Securities, one of the companies involved in delivering the scheme, estimated that investors would gain ¥5,500 per unit if the games sold a combined 800,000 copies, and would suffer losses if the combined sales of the two games were under 300,000 units. The fund ultimately raised ¥770 million from over 2,700 investors.



» Even Konami's lesser known games often provide great fun – *Dragoon Might* is a forgotten arcade gem.

» Despite his niche appeal, Goemon still has his fans in the west.

Elsewhere in the world, attention was focused on how Konami would follow up its PlayStation hits – and players were floored when they actually got a glimpse of what Konami was working on. "The trailer for *Metal Gear Solid 2* left you feeling incredulous, and of course the game itself raised expectations to a place that few publishers ever managed to attain," says Paul, who felt that the game "was earth-shattering on arrival and truly landmark".

Over the course of the generation, *Silent Hill* would develop its identity further with the introduction of new characters and concepts like the iconic Pyramid Head, and *Pro Evolution Soccer* rose to prominence as the primary competitor to EA's *FIFA* series. For Paul, they're a defining part of Konami's output. "I got obsessed with *Pro Evolution Soccer*, which reached its peak around *PES4* and *PES5*. Those titles were sublime, there's no other word for it. I'm going to use the word beautiful as well, though."

Beside its tentpole releases, Konami introduced a number of fascinating new games in the early Noughties. In arcades, the developer tried a variety of different ways to enliven the lightgun genre – *Police 911* had a height sensor that allowed players to physically crouch to avoid shots, and *Warzaid* experimented with an ultra-wide projection screen. On PlayStation 2, the *Zone Of The Enders* games were beautiful if somewhat brief mech battlers, *Shadow Of Memories* offered an unusual time travel adventure and the innovative *Ring Of Red* combined turn-based strategy with real-time combat elements. On the GBA, *Boktai: The Sun Is In Your Hand* took advantage of the portable nature of the hardware by including a solar sensor in the cartridge, which powered up the hero Django's gun.

Moving into the latter half of the Noughties, Konami worked with western developers to create new entries in its older franchises on the DS, including *Contra 4* by WayForward Technologies and *New International Track & Field* by Sumo Digital. The company had a major Japanese hit with *LovePlus*, a DS dating simulator. The game hit headlines internationally when a Tokyo resident 'married' his favourite character Nene Anegasaki in a ceremony streamed live online – though it wasn't an official or legal marriage, despite being overseen by an actual priest. Meanwhile on the PSP, Konami released excellent retro projects like *Gradius Collection* and *Castlevania: The Dracula X Chronicles*, as well as original games such as *Silent Hill: Origins*. Konami did try to broaden the international appeal of some

"AS THE DEPTH OF WHAT WE CAN DO HAS IMPROVED THE NUMBER OF PEOPLE INVOLVED HAS ALSO INCREASED"

Nobuya Nakazato

» Fans love *Metal Gear Solid* games for their refined stealth as much as their bizarre plotlines.

of its Japanese hits at this time, localising the *Jikkyou Power Pro Baseball* series as *MLB Power Pro* and creating the Americanised dating sim Brooktown High, but neither was able to replicate the success of their Japanese counterparts.

Going into the HD era, Konami began to focus even more intently on the likes of *Metal Gear, Silent Hill, Castlevania, Pro Evolution Soccer* and its music games. This resulted in a leaner release schedule, but one which still gave us some absolute classics – PlayStation 3 sales spiked when *Metal Gear Solid 4: Guns Of The Patriots* released in 2008, and *Castlevania: Lords Of Shadow* revitalised the series. Konami also added a huge number of classic properties to its catalogue in 2011 when it purchased Hudson Soft, giving the company control of games including *Star Soldier*, *Bomberman*, *Bonk* and a huge chunk of the PC Engine catalogue. The acquisition had taken a long time, beginning in 2001 when Konami purchased 5.6 million shares to become the largest shareholder in Hudson Soft. The deal did involve Konami selling its Sapporo development studio to Hudson Soft in exchange. The company increased its shareholding to a majority stake in 2005, becoming the exclusive distributor for all of Hudson Soft's games. Following the full acquisition in 2011, Konami moved to absorb Hudson's operations into the wider business and retired the old brand completely in 2012.

According to Nakazato, working on games at Konami hasn't changed much over the years. "The basics of the job are pretty much the same as they have always been," he tells us, "but as the depth of what we can do has improved, the number of people involved has also increased, giving us more time to dedicate to the creative side of things. This makes the time management of tasks much more important as well." But while the development process hasn't changed, the target platforms have. Konami's arcade games rarely make it outside of Japan today, though impressive cabinets like *Dancerush Stardom* and *Sound Voltex* can be found at select venues in the western world. Additionally, Konami and Hideo Kojima parted ways under contentious circumstances following the release of *Metal Gear Solid V: The Phantom Pain*, resulting in the cancellation of the promising *Silent Hills* project. As a result Konami has been fairly quiet on the home console scene during the current generation, sticking to its proven properties – mostly annual updates of its football and baseball franchises, as well as a *Metal Gear Solid* spin-off, *Metal Gear Survive*. In 2015, the company openly stated that it was shifting to a mobile-first strategy for games.

Despite that, there have been things for Konami fans to be excited about in recent years. The *Power Pro Baseball* series has become the official esports game of the Nippon Professional Baseball league. *Super Bomberman R* became a great case for revisiting games, as it underwent a quiet year-long transformation as extra content was added via free DLC, and included plenty of classic characters like Dracula and Goemon. And with the company now celebrating its history as it reaches its 50th anniversary, Konami has released retro-themed digital compilations including the *Castlevania Requiem* bundle and this year's *Anniversary Collections*, as well as the brilliantly celebratory picross game *Pixel Puzzle Collection* on mobile.

So if it's fair to say that fans have wanted to see more of Konami on home consoles lately, that itself is a testament to its legacy in the gaming world. The compilations highlight how great the Konami games of the Eighties and Nineties were, and the fact that fans crave more from franchises like *Castlevania*, *Contra* and *Silent Hill* is proof of how much those games mattered to them and the wider gaming world. Whatever Konami does over the coming years, its contributions over the first 50 years of its existence have secured it a crowing place in gaming history.

BEYOND VIDEOGAMES

You might be aware that Konami has business interests outside of the videogames industry – here's a look at some of those

Though Konami doesn't publish nearly as many home console games as it used to, the company is still a very large business because it has many interests. Most of these are connected to its heritage in gaming and amusement. For example, Konami Digital Entertainment - the bit that is primarily responsible for videogames – also handles the popular *Yu-Gi-Oh!* trading card game, while Konami Amusement does pachislot machines as well as Bemani arcade games.

Konami Gaming is the side of the business that handles machines for gambling establishments, from regular slot machines to elaborate systems like the Fortune Cup mechanical horse racing game. Some of these are even themed around videogames, including *Castlevania: Valiant Guardian*, *Frogger: Great City Wilds* and *Neo Contra: Warrior Reloaded*. The company also promotes a system called Synkros, which is a tool for casino management.

Where the company deviates from its other interests is in its sports and fitness clubs. These were operated by People Corporation, which began as a single store in Nishinomiya in the Seventies and rapidly expanded during the Nineties. Konami acquired the company in 2001, and operates dozens of facilities across Japan. The company even sponsors the Konami Sports gymnastic and swimming team, which includes Olympic medallists such as Kohei Uchimura, gold medallist in men's individual all-around gymnastics at London 2012 and Rio 2016.

» *Yu-Gi-Oh!* is a huge franchise for Konami, especially the TCG.

ULTIMATE GUIDE: SOLOMON'S KEY

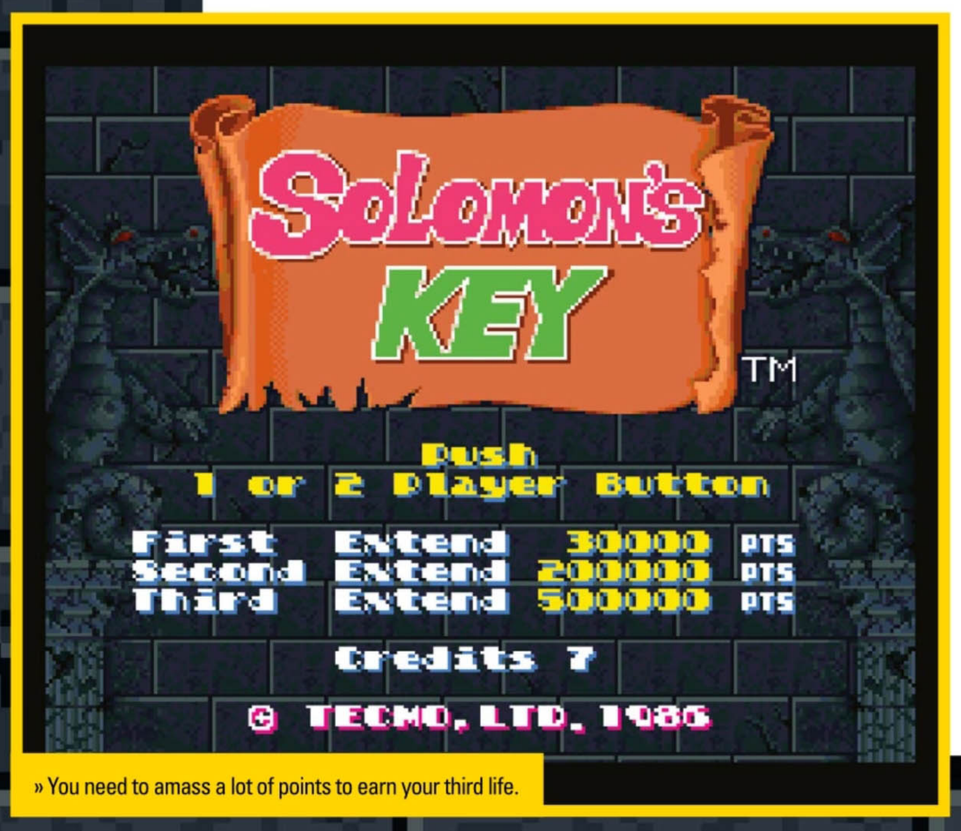
Idiosyncratic and quirky, those that persevered with this Tecmo game found themselves falling in love with its blend of cute fantasy characters and unusual game design. Retro Gamer readies its wand to reveal more on this underrated gem

Words by Graeme Mason

A quick glance at the list of arcade games released in 1986 reveals a few surprises, and demonstrates an industry that was at least attempting to bring some originality to its product. In among the customary roster of shoot-'em-ups (*Salamander*), driving games (*Out Run*) and run-and-gunners (*Ikari Warriors*), is a selection of imaginative titles that were distinctly different from the rest. In a virtual arcade where the aforementioned genres are banned, you would be able to include the likes of skateboarding sim *720°*, *Breakout* upgrade *Arkanoid*, *Bubble Bobble* and the urban destruction of *Rampage*. And nestled between these iconic cabs, a magical hue emanating from its incongruous artwork would sit Tecmo's *Solomon's Key*.

Formerly known as Tekhan, Tecmo's biggest hits before 1986 had been the explosive platformer *Bomb Jack* and football arcade sim *Tekhan World Cup*. The former's creator, Michitaka Tsuruta, was determined to create another original game design, one that would mix genres to form something new and refreshing. Partly inspired by *Lode Runner*, the designer twisted the famous Brøderbund game, adding a fantasy theme and focusing on creating blocks rather than digging holes.

Solomon's Key is the story of a wizard called Dana, who has the small task of saving the world from a horde of demons. Accidentally released by an undefined incident, these monsters pepper the world which Dana ventures into in order to reset the eponymous seal that protects all of existence. Summoned by the fairies, Dana, dressed in a green cloak and time-worn pointy hat, must enter 12 chambers, each containing a collection of increasingly oblique screens. The chief goal of every screen is to collect its glistening key which opens the exit to the next level, taking the hero a step closer to Solomon's chamber. Also littered around is a range of items that Dana must collect in order to aid his progress. These include fireball spells, score bonus symbols and a bell, the collection of which releases ▶



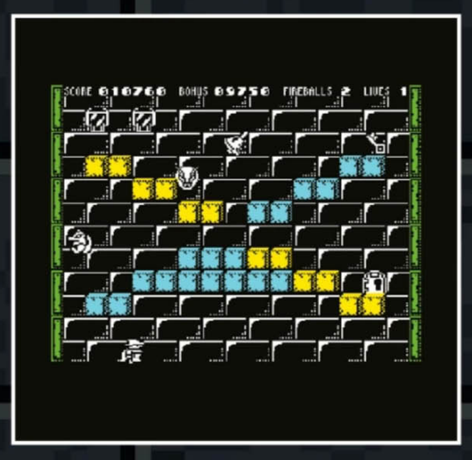
» You need to amass a lot of points to earn your third life.

CONVERSION CAPERS

Which of the ports were burning classics, and which were misfires?

AMSTRAD CPC

■ Not a great deal was expected of US Gold and Probe's conversion, given the pair's recent collaborations for the 8-bit computers, and while the weaker of the three, this Amstrad port is still passably fun and colourful. Only some slightly juddering controls let it down.

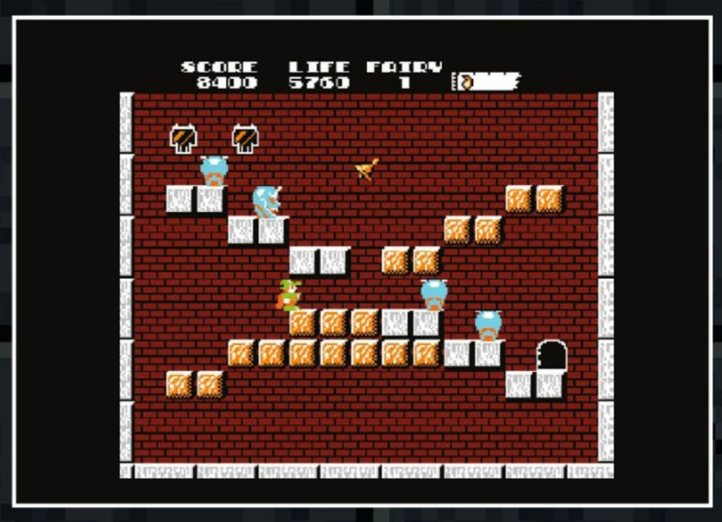


ZX SPECTRUM

■ Coded by Raff Cecco, working freelance for Probe Software, this version contains the coder's usual neat graphics and impressive gameplay. The arcade game's sprites are replicated well, but much of its colour is inexplicably lost.

COMMODORE 64

■ Edging out its 8-bit home computer peers, this is a solid port. The graphics are functional, rather than outstanding, but there's much enjoyment to be had from the zippy gameplay. It also got a rare thumbs up from the *Zzap!64* reviewers.

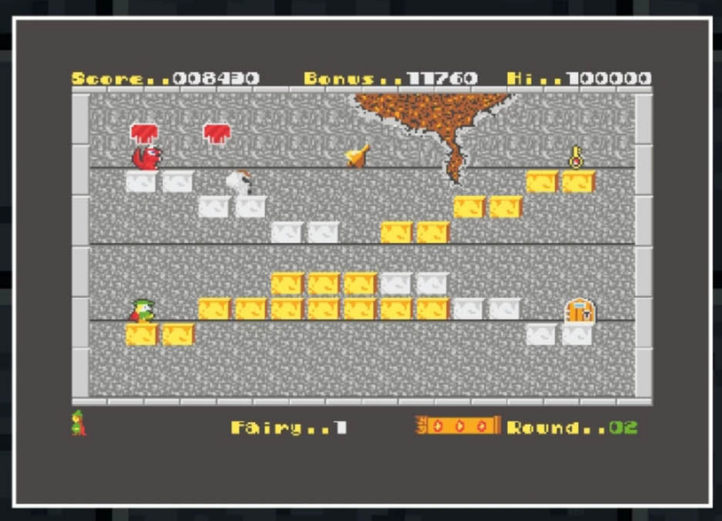


NES

■ Coded by the original arcade team, this NES port has colourful graphics and tight, responisive controls. On a console full of platformers, *Solomon's Key* is a refreshing must for NES fans, and it even matches its hero on the box art (something the home computer versions didn't do).

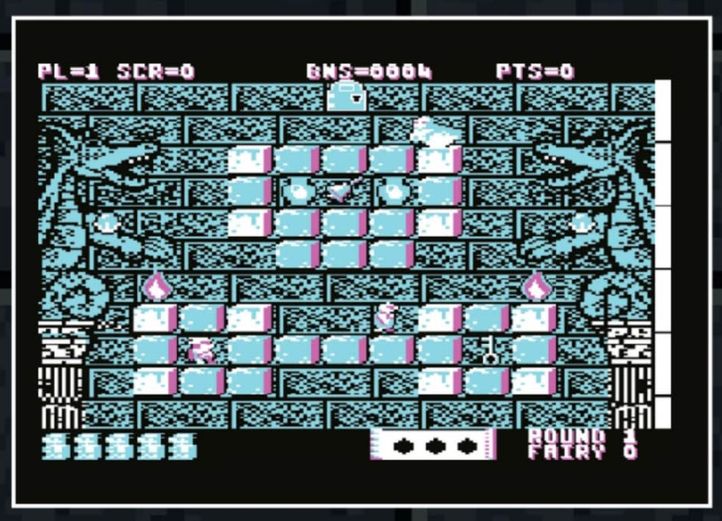
MASTER SYSTEM

■ This Sega port of *Solomon's Key*, is a little curio. Released only in Japan as *Solomon No Kagi*, its publisher, Salio, was essentially a dummy corporation created by Tecmo to enable it to sidestep Nintendo's exclusivity policies. It's another decent port, though not as good as the NES game.



ATARI ST

■ While Dana's block-making/destroying range is oddly longer, much of the original game is replicated faithfully here by Probe and US Gold. With a squatter screen display, the game feels claustrophobic in places, but it's a good stab and well worth investigating.



DOS

■ Like many PC games of the Eighties, *Solomon's Key* is a bit of a horror show visually, despite a laudable attempt at recreating the screens accurately. Fortunately it plays okay, with the main character moving well and the core gameplay intact, but it's still demanding on the eyes.

PLAYING TIPS

Learn how to beat Soloman's Key

BLOCK PRODUCTION

■ Dana is pretty nifty at creating blocks. Not only does pointing to the left or right create one right in front of him, if he crouches down, he can also plug holes in the floor. The cunning wizard can even magic up blocks while sailing through the air, which comes in useful more often than you would typically think.

DIFFERENT METHODS

■ Each screen in *Soloman's Key* can be tackled differently, although generally there is one obvious solution. Take this first level: the turtle in the centre can be avoided completely, or dropped to its doom by taking out the block beneath it. As long as you acquire that key, the door will be open and escape is possible.

EXPERIMENT FOR BONUSES

■ *Solomon's Key* encourages the player to experiment within its levels, creating blocks and then destroying them to reveal hidden bonuses. The best way to chase high scores is to learn the layouts of the game's stages and pocket these hidden extras, which also include helpful extra lives and fireballs.

» It may look simple, but levels such as these ones are deviously constructed

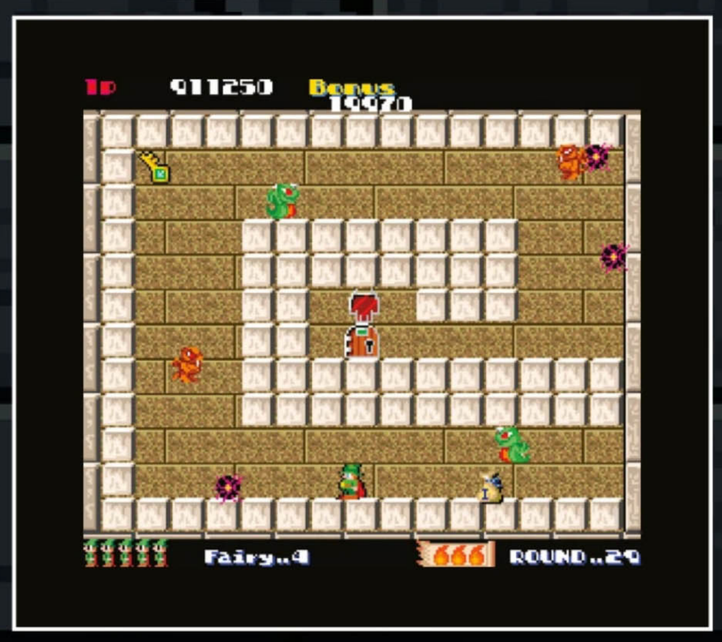
» These mages pepper the latter levels, creating new blocks and mayhem of their own.

> "The sound effects are great and it has some really novel design elements"
>
> Raffaele Cecco

▶ a fairy who can be rescued for extra points, and because it's a nice thing to do.

Naturally, each level houses a progressively devious variety of enemies. Often respawning, and always deadly to the touch, these creatures can be eliminated by the fireballs that Dana stores and unleashes with a tap of the fire button. The key weapon in the wizard's armoury, however, is his golden wand: wave it at a vacant space and it summons a block. Use it on one of the many brown blocks that appear in every level and the block is destroyed, sometimes revealing a bonus item behind it. While Dana can also destroy blocks above him with his head, it is with this block-creating ability that he can negotiate his way around each level, rescuing fairies, collecting bonuses and progressing to the next stage. Different strategies can be adopted to combat each of the complex levels. For example, deadly sparks, which run along walls and blocks can either be contained, blocked off or simply avoided. Blocks can also be used to temporarily obstruct other enemies or destroyed underneath them to eliminate them via falling. In the time-honoured fashion, the early screens offer a simple, uncluttered path to the exit. Yet after a mere handful of levels, the player will be confronted with claustrophobic, enemy-infested puzzles that require both manual and mental dexterity in order to solve.

Fortunately there is help at hand, and often on the tip of Dana's powerful wand. Rather than a spell book, the wizard holds a magical scroll, ▶



MY HEART IS A FIREBALL

■ Fireballs are Dana's primary defence against the assorted nasties, and are best conserved for his hour of need. Initially the wizard's scroll can only store three, but this can be expanded with the right power-ups. The constantly respawning enemies somewhat neuter their effect, but you never know when you might get cornered.

MOBILE WIZARDRY

■ Dana is a very spry chap, capable of leaping up and across two blocks at a time. Enemies can also be jumped over (albeit cautiously) and even his direction altered mid-flight. He's no slouch on the ground either, and will need all of these skills and more in the face of the game's incessant deluge of opponents.

FAIL TO PREPARE, PREPARE TO FAIL

■ It's important to always remember that *Solomon's Key* is, at its heart, a puzzle game rather than a platforming adventure such as *Super Mario*. Each of the game's screen has a particular path, of which there is normally one correct way of tackling. Choose unwisely and Dana could end up stuck... or worse.

PIXEL PERFECT

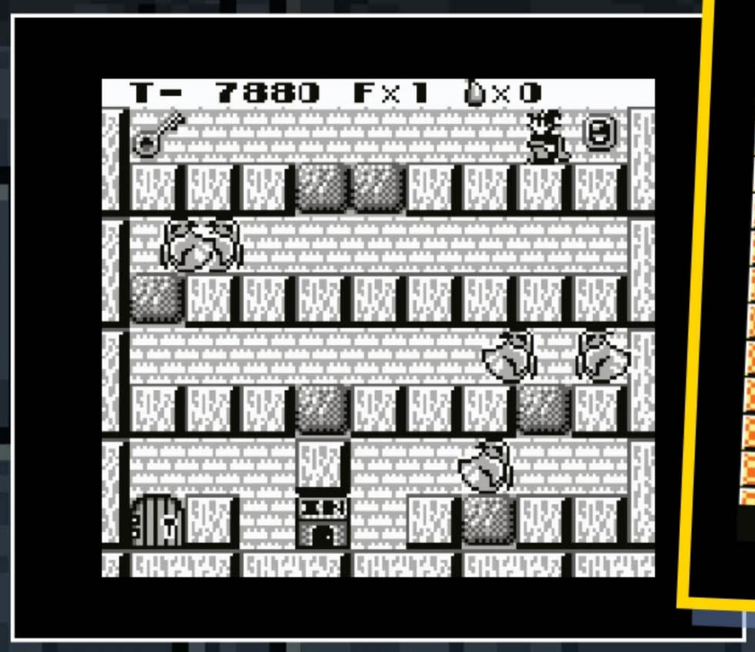
The strange things you'll encounter in the 12 chambers

CONTINUING THE ADVENTURE

If you're after more Soloman's Key, you're in luck

Originally developed as a separate, new IP, the NES title *Fire 'N' Ice* was morphed into a *Solomon's Key* prequel in 1992 when that game became a success for Tecmo on the Nintendo console. Taking its cue from the Game Boy's *Catrap*, AKA *Pitman*, *Fire 'N' Ice* ramps up the puzzle elements as Dana extinguishes flames throughout each level using his ice-creating wand. Loose ice blocks can be pushed and slid (giving the game an added *Pengo* dimension) while blocks formed in midair fall to eliminate fires below. While fans of *Solomon's Key* may find the lack of a jump annoying, *Fire 'N' Ice* is a fantastic game, with a charming central character and a real sense of achievement when some of the trickier stages are solved. An actual sequel to *Solomon's Key* had already appeared in 1991 on Nintendo's Game Boy. *Solomon's Club* replicates its predecessor's gameplay far more accurately over its five levels, each containing ten rooms. The ability to select your starting level is a big plus, and despite a cluttered display, it's a sound, if overfamiliar, tread once more into the world of *Solomon's Key*.

» Dragons must be approached with caution, unless you fancy being toasted.



» Dana contemplates the nimble platforming skill and fireballs needed to traverse this stage.

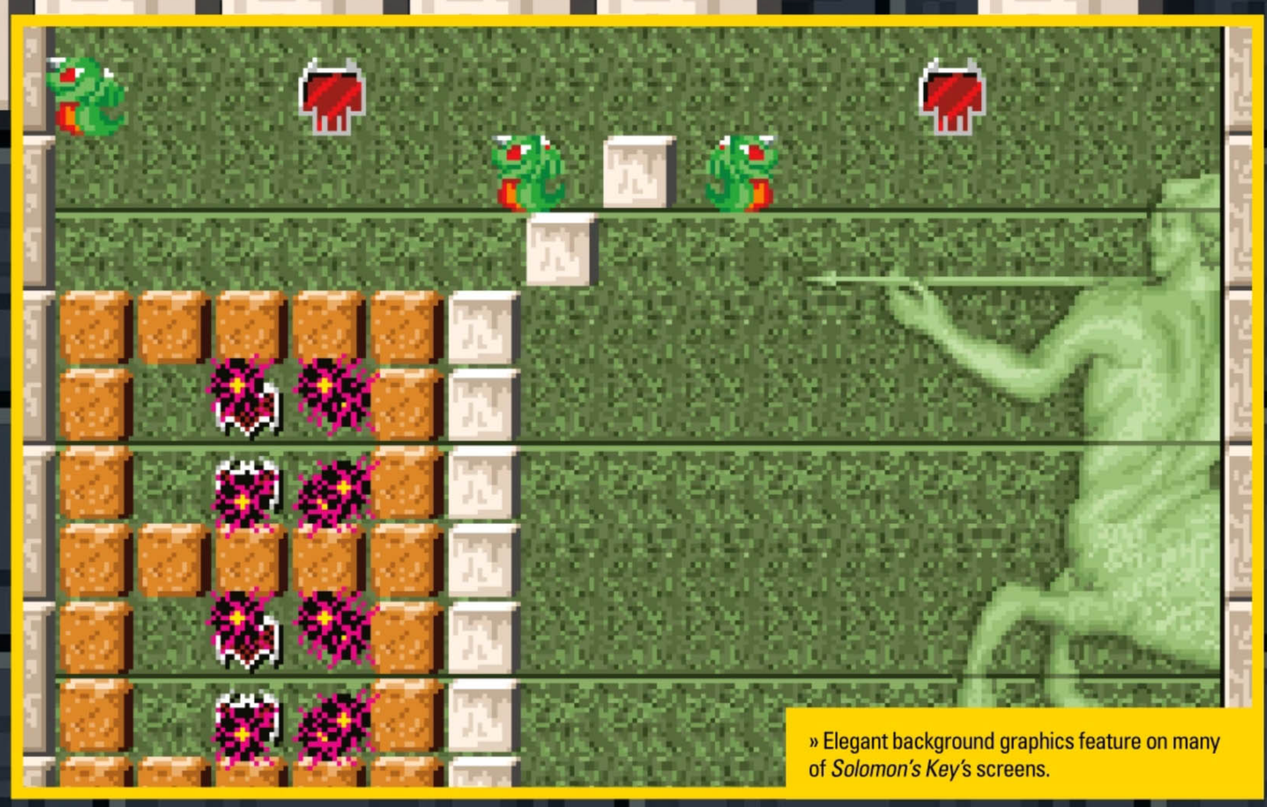
"I had this humongous arcade machine delivered to my living room!"

Raffaele Cecco

▶ within which he can hold three destructive fireball spells, used to eradicate enemies that obstruct his path. Parchment extensions increase the amount of spells Dana can hold, while picking up a fire potion increases his fireballs by one. A super fire potion gives the wizard a souped-up fireball while the fire growth potion upgrades a spare regular fireball into a super one. Also, each fireball will travel a certain distance before dissipating; collecting green and red jewels extends this further, yielding even more destruction. Rounding off the standard pickups are a pair of hourglasses, one usefully restoring all time to the level's meter while the other, coloured a more foreboding crimson, puts the time at half the original allocated amount, a boon when low on time, but to be avoided at the start of a screen.

Finally, two more elixirs, one red, the other orange, destroy all enemies on-screen and give the wizard an extra life respectively. In addition to these collectables are hidden bonus items, each bestowing the player a mega score bonus. Alas, they are tricky to discover, concealed behind blocks or even in the scenery itself, only apparent when a block is created and broken over them. Miss one of these and it will never appear again. Standing in Dana's way stand a range of opponents from the imagination of Michitaka Tsuruta. Whirling demon heads drop from the monster spawn nests; hideous gargoyles breathe fire, as do dragons and salamanders. Green and orange slime gloops around the stone walls and floors while sparks travel across all surfaces, stopping only when they fatally touch Dana.

Curiously, the NES version of *Solomon's Key* was developed alongside the arcade game by the Tecmo team. Unlike many NES arcade conversions, the gameplay remains more-or-less the same despite



» Elegant background graphics feature on many of *Solomon's Key*'s screens.

» This scoring chart helpfully breaks down the bonuses in *Solomon's Key*.

» Skill is needed in order to navigate this particular stage.

an odd alternate opening level and the addition of some eclectic items such as 12 zodiac panels, golden wings that warp the player forward six levels and, in a hard-to-find cameo, Mighty Bomb Jack himself. Home conversions to the Amstrad, Atari ST, PC, C64 and Spectrum computers also followed, developed by Probe Software and its publishing partner, US Gold. Rounding up the releases of the time is the Sega Master System port which, like the NES game, was created by Tecmo itself, and is very similar to the Nintendo game. The inevitable Virtual Console version came to the Wii in 2006 before finally, in 2013 3DS gamers finally got their chance to rescue fairies and save the world by destroying and creating blocks.

From an era not always renowned for originality, Tecmo's *Solomon's Key* represents a fascinating exception, when developers were willing to try something different. Within each shrewdly crafted level lays a route that must be discovered, with each subsequent screen more challenging. Not with pure reflexes and muscle memory can the player succeed here: a quick mind and eye for an escape route are the only way to guide this brave wizard to the final seal and pull the world back from the brink of darkness.

Q&A RAFFAELE CECCO

We chat to the prolific Spectrum coder about his conversion of Solomon's Key for Probe and US Gold

How did you come to work with Probe?
It was a fairly small industry at the time, and I'd chatted to Fergus McGovern – owner of Probe, sadly deceased in 2016 – about the possibility of freelance work. He knew about my Hewson Consultants titles so it was just a case of waiting for the opportunity to come up.

Did you work with anyone else when creating *Solomon's Key*?
All of the coding was done by myself, although I don't remember if I had any help with the graphics or if they supplied the original graphics for me to copy. Certainly, the ZX Spectrum graphics look like my style.

What did you think of the arcade game?
I wasn't familiar with it, and I really liked it when I played it. It's a really neat platform/puzzle game – the kind of thing I liked to design myself. The sound effects are great and it has some really novel design elements. I believe I may have pinched a couple of ideas for my own games, for example, the weird aliens that track around the edges of the platforms appeared in *Cybernoid II*.

How did the conversion process work for you?
Basically, I had this humongous arcade machine delivered to my living room! I just played the game from start to finish, taking notes and sketches or photos as I went along. Luckily, the game is composed of conveniently grid-based static screens with no scrolling, so replication of the level layouts was quite easy.

You were famous back then for your brilliant original games – what was it like working on a licensed game, converting someone else's design?
It was a nice break not to have to think about designing anything! I just coded what I saw. I found this much easier than designing a game and coding it. In fact, I wish I'd done more arcade conversions like *Solomon's Key* – my life would have been a lot less stressful. I don't think it took longer than three months, whereas something like *Cybernoid* was more like nine.

Were there any converting issues?
Not really – it was a perfect game for conversion to the Spectrum, with its static screens and grid-based level layouts, so no problems with performance or worrying about colour attribute clashing. There were a few sprites on the screen and that was about it. Each level was converted faithfully and there were no compromises in terms of gameplay. I may have missed a few of the later levels, but there were ample levels for a ZX Spectrum game.

How do you think you did in retrospect?
I was really pleased with *Solomon's Key* as I thought I captured the arcade machine gameplay faithfully. The original is a brilliantly designed game, somewhat underrated in my opinion, so it was very educational being able to scrutinise it so closely for a while. And obviously, having a big arcade machine in the living room was quite a talking point, too – especially on freeplay!

THE MAKING OF COLUMNS

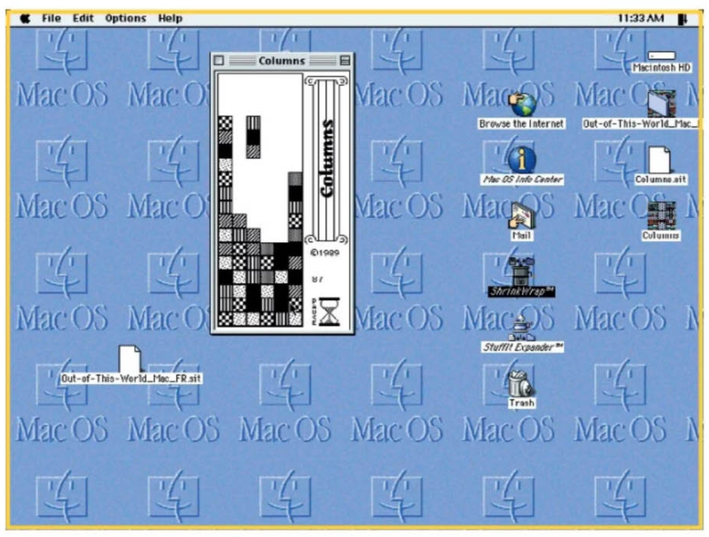
SEGA'S ANSWER TO TETRIS PROVED TO BE A GOOD ALTERNATIVE ON THE PLATFORMS IT LANDED ON, BUT IT ALMOST DIDN'T MAKE IT TO MARKET. WE TALK TO ITS ORIGINAL CREATOR, JAY GEERTSEN, TO LEARN MORE

Words by Adam Barnes

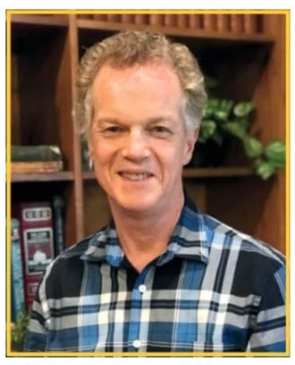
Everyone has a retro title that meant the world to them. For some it may be the game they played the most throughout a machine's life, for others it may be the one they could only play over the weekend after renting it from the video rental place down the road. When it comes to Sega's Mega Drive, those games could be anything from *Sonic* and *Streets Of Rage* through to *Earthworm Jim* or *Road Rash*. Few games, however, have the complete, unanimous recognition of *Columns*, a game that every Mega Drive owner must've whiled away the hours on at one point or another. This is thanks in large part to the *Mega Games 1* bundle – which came packed with *Super Hang-On* and *World Cup Italia '90* – and is arguably the reason that the *Tetris* clone became such a staple of the console.

IN THE KNOW

- **PUBLISHER:** Sega
- **DEVELOPER:** Sega, Jay Geertsen
- **RELEASED:** 1989
- **PLATFORM:** Various
- **GENRE:** Puzzle



» One of Jay's friends at HP converted his X11 version of *Columns* to the Mac, while another created the DOS version.



» *Columns* started off life as a side project for Jay Geertson

But while the obvious comparison with Nintendo's puzzler is there, the story of *Columns* is rather surprising, forgoing the typical tales of developer endurance or a determination to do something new with videogaming. In fact, *Columns* wasn't even going to be released at all.

"Around 1989, my family and I were living in Colorado Springs where I was working for Hewlett-Packard as a software engineer," says Jay Geertsen, the brain behind the jewel-matching game. "The team I was on was developing a graphical application and I was given the assignment to port the application to the X11 Window System. I had found an X11 tutorial online and was plodding through it, but before long I became a bit bored with the exercises in the tutorial. I thought that programming a simple real-time game would be more interesting and fun." Believe it or not, but that's where the story of *Columns* begins, not with a desire to release an interesting product onto the games market, but rather as a way of practicing programming for a software engineer. "I don't recall going through a long thought process about the initial concept." says Jay, who admits that he just wanted to "transition from the X11 tutorial to a game". From this came the concept of manipulating falling tiles into three or more rows. "Soon after that, I decided to use colours for the tiles and that aligning colours would be the objective."

It'd be easy to make the *Tetris* comparison, of course. But while the landmark puzzler released in 1984 on various platforms, it wasn't actually until

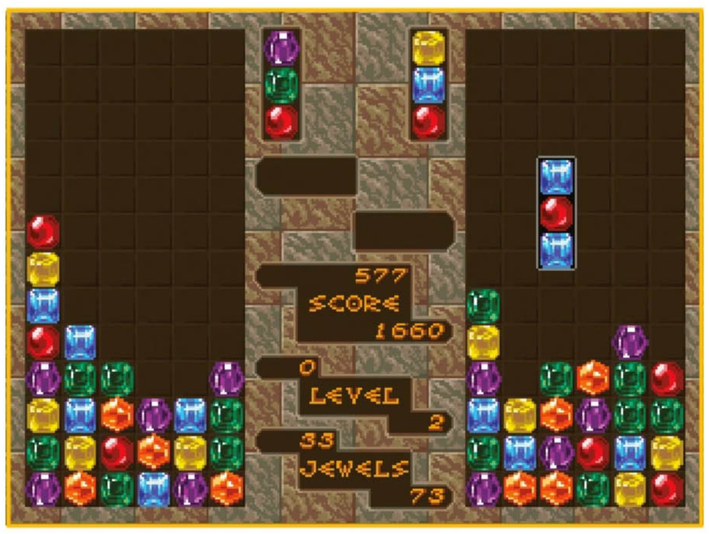
» Nothing felt more satisfying than having the Game Over sign explode onto your opponent's screen during a tense battle.

"AT THE TIME MY INTENT WAS SIMPLY TO GAIN SOME EXPERIENCE PROGRAMMING WITH X11"

Jay Geertsen

the same year that Jay started on the concept of *Columns* that *Tetris* was released and it became the smash hit we know it is today. While Jay was aware of the game, however, he wasn't really looking at videogames for inspiration. "Distinguishing the game from *Tetris* was never really a goal," says Jay. "I mean, I wasn't trying to mimic *Tetris*, but I never consciously thought, 'Because *Tetris* does *that*, I'm going to do *this*.'" As it happens, the initial inspiration behind *Columns* was in fact Tic-Tac-Toe, he adds. "Back then I appreciated games with a relatively simple concept, and 'three things in a row' seemed like a simple concept." Jay adds that he wanted the premise to be simple because "at the time my intent was simply to gain some experience programming with X11" rather than to create a marketable game.

However, this doesn't mean that there was nothing of *Tetris* that had worked its way into *Columns*, or rather had worked its way *out*. "One thing I didn't like about *Tetris* was that the pieces dropped faster and faster as it was played until defeat was inevitable," recalls Jay. "I never myself implemented a similar speedup in *Columns*. I wanted people to feel like they could play forever if they were just good enough." His solution to allow for an increasing difficulty, then, was to instead alter the columns themselves. "Instead of the speedup, I implemented increasing levels of difficulty. At the easiest level, there were only three colours in play, and potentially all three of the tiles in a column could be the same colour. At



» The Mega Drive and arcade versions were practically identical, though the latter included modes like Duo.

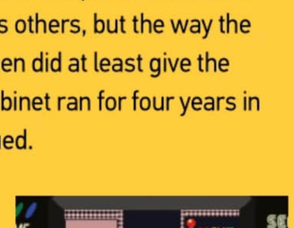
the hardest level, all six colours were in play and available, and all three tiles in the column had to be distinct colours." It was a different approach to how *Tetris* handled its difficulty but Jay explains that it was "enough of an ultimate challenge for me". Though this would go on to be changed once the game left Jay's hands, a similar function appeared in some versions of *Columns* that allowed the player to pick how many jewels would appear, controlling the difficulty for themselves.

It's interesting that Jay had no grander vision for his game than merely to learn the intricacies of the HP-UX operating system. "I had no hopes for the game other than to learn X11 programming," he says, adding that "when I shared it within HP, I simply hoped that people would enjoy it. The thought of commercial potential never

ESSENTIAL SEQUELS

Columns sequels worth taking the time to solve

COLUMNS II



■ Though the console version of *Columns* released in 1990, the arcade version had been around in Japan since 1989. This sequel – initially exclusive to both Japan and the arcades – released in August of 1990 with the subtitle of *The Voyage Through Time*. This didn't amount to much outside of a variety of backdrops from across the ages and jewel sprites to match.

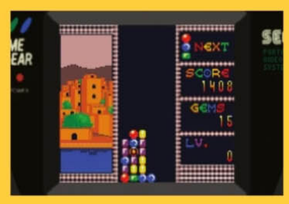
COLUMNS III

■ Unlike its predecessor, the third game in the series did release in the west in 1993. This time it was released for both arcades and Mega Drive, though very little was done to adapt the gameplay beyond the foundation that was set in the original. This time an Egyptian setting had the player combat against AI in single-player as they delved deeper into a pyramid.

COLUMNS '97

■ So called because it was released in 1997 (shocking, right?), this arcade-only entry revamped the visuals to add a bit more jazz to the experience. It was, otherwise, exactly the same as others, but the way the jewels gently spun on the screen did at least give the game a little more flair. The cabinet ran for four years in Japan before it was discontinued.

SUPER COLUMNS



■ Considering the popularity of *Tetris* on Game Boy, it was naturally a smart move for Sega to bring the original game over onto Game Gear. However, *Super Columns* was the first game of the series to be made exclusively for a portable device, and added in a heap of new features: new types of blocks, different columns with special effects and even the ability to rotate the columns.

COLUMNS CROWN

■ Releasing in 2001 some years after its predecessor *Super Columns*, this Game Boy Advance release was a case of too little, too late for Sega and the *Columns* franchise. Despite being a decent version of the classic *Columns* gameplay, the GBA was already rife with similar puzzle titles and it was just hard for the classic Mega Drive brand to catch up.

CONQUER COLUMNS

How to build it up to knock it all down

C-C-C-COMBO

■ Since tiles will drop after clearing beneath them in *Columns*, the scoring system is built around the idea of building combos. This is your bread and butter in the game, so carefully planning ahead and building patterns that will easily lead to combo points is essential.

TWO-WAY

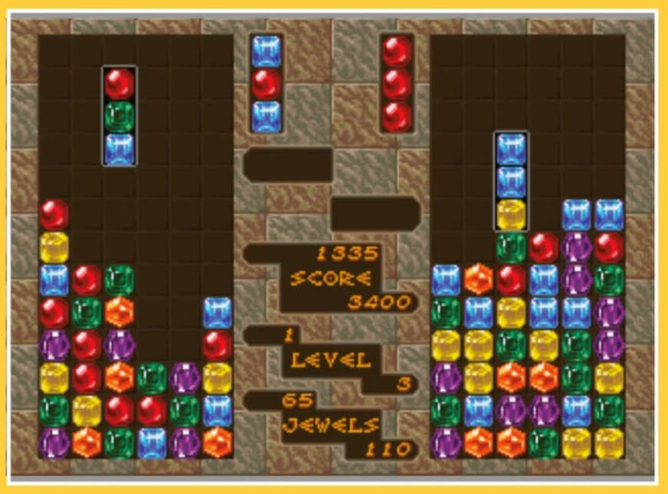
■ On top of planning and building combos ahead of time, maximising the points scored in a single drop is also crucial in *Columns*. This means you need to be mindful of placing columns in such a way that the right column setup will score two – or more – sets of three.

STACK OF THREE

■ While you'll be tempted to use the rare three-tile column to score a four or five-tile set, remember that it is much more valuable than that. You need to use it smartly rather than just throwing it away by building off it to allow for a high-scoring combo later on.

MAKE IT COUNT

■ The special flashing column is powerful, but while you'll likely score more points by landing on – and destroying all of – the jewel colour with the most on the screen, keep in mind that this useful tool can also help you clear away bothersome, hard-to-clear tiles, too.



ONE STEP AHEAD

■ As things start to stack up, you'll want to start picking away at the single colours sitting beneath other jewels. To do this you'll need to build a diagonal combo, so choose one to destroy and focus on getting rid of this. If you're methodical, you'll clear away some table space with little trouble.

DON'T PANIC

■ As with most of these games, when the speed picks up, and you've little real estate to work with, remember to plan smartly. Rather than slamming columns in the first suitable place you see, hold off and use the fall time to glance at what you're getting next and plan accordingly.

"I HAD NO INPUT INTO ANYTHING THAT SEGA DID"

Jay Geertsen

crossed my mind." The game at this point wasn't quite the same as the one that would later make its way over to Sega's console. Though the core idea of sets of tiles dropping from the top of the screen was there, it only used colours to differentiate between tiles and had no speed-based difficulty. Nor was there any of the music that many would nowadays associate with the game. It had fulfilled its purpose of helping Jay to understand programming on the X11 version of the operating system, sharing the end result with fellow Hewlett-Packard employees. "I had a HP colleague in California who maintained a collection of HP-UX X11 apps and games and access to the collection was available to any employee in the company. After I created the game, I shared it with him and he posted it on his server." This was the beginning of how *Columns* would come to gain wider visibility, with internal developers eventually picking up on the tile-stacking puzzle game. "Two HP colleagues later contacted me and expressed an interest in porting the game. One wanted to port it to the Mac and the other wanted to port it to DOS. They, in turn, shared their versions of the game with the public, which I was okay with." These two ports were essentially identical to Jay's original, though he admits that "one of them did implement a speedup to the game" despite his original idea preferring to avoid such a feature. The Mac version naturally had to forgo the colourful blocks, and instead used different patterns to help distinguish the different tiles from one another.

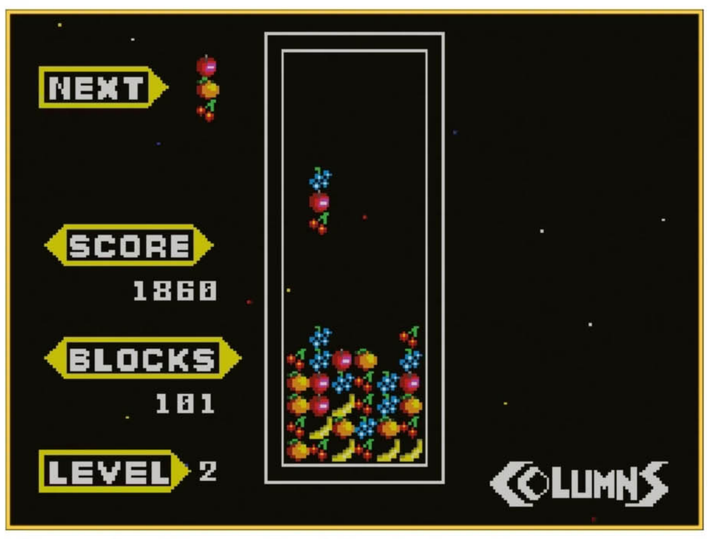
Jay ultimately didn't pay much heed to the progress of the game at this point, since he had no aspirations for the game to go beyond his little work project. His task had been achieved and though the wider world could now have access to the title through shareware, it wasn't something that Jay was especially interested in. "I had no interest [in becoming a

» The addition of a two-player mode was actually a huge advantage over the likes of *Tetris*.

» A novel Duo mode was added into the Mega Drive version, whereby players would take turns to drop columns.

game developer]," says Jay, "I was a pretty happy software developer and didn't want to take time away from my career or family."

But the game did manage to get some traction on DOS and Mac, and it was here that Sega – in a roundabout way – ended up getting involved. "A lawyer had learned about the game – presumably from having seen one of the two ports of it shared publicly – and tracked me down. The ported games gave me attribution as the originator." The lawyer was independent, but had seen the potential in the game and was looking to buy the rights to it. "I felt that because I had used corporate resources to create the game, I ought to let them know what was going on," explains Jay, who adds that as a result he ended up taking the request further up the chain to his management and their higher-ups. "They seemed a little unsure of how to proceed and it took them about six months to decide what to do. As it turned out, HP sold non-exclusive rights to the fellow. The money he paid for it was donated to the Mile High United Way. HP retained the rights to distribute my X11 version of the game with HP-UX." Admittedly this all seems a little anticlimactic for the game that *Columns* went on to become, though Jay at least acknowledges that he was awarded with a plaque by the X11 team within HP as praise for their contribution to their distribution. "I never intended to make a commercial endeavour of the game," adds Jay. "Even if I had wanted to, I still would have felt compelled to consult with my



» Some versions of the game allowed players to change the appearance of the jewels.

» Competitive multiplayer is a huge draw in puzzle games like *Columns*.

HP management due to having used my work computer to create the game."

Of course, the rest of the story comes down to Sega who, having lost its rights to publishing *Tetris* in the arcades, had set about looking for a puzzle game that could replace and maybe even compete with Nintendo's hugely successful title. Sega managed to find out about *Columns* and tracked down the lawyer, buying the rights through him and turning it into a marketable product that gamers might want to pay for. Initially this meant a release in arcades in 1989, but inevitably it came over to Mega Drive and Game Gear by 1990. The core gameplay remained, though the overlay of jewels – rather than coloured blocks – gave the title a little more pizazz. "I had no input into anything that Sega did with the game," says Jay of the process of the game officially releasing as a product. "They just ran with it as they chose. It was they who decided to replace the coloured column tiles with jewels and to invent the lore about the ancient Phoenicians."

There were other additions, too, such as a two-player mode or magic jewels that could destroy all the gems of the same colour. Sega also reinstated the quickening of columns as the game got harder. "It was kind of gratifying to see the Sega implementations and packaging," says Jay of witnessing his game turned into a fully realised product. "I thought the coloured jewels instead of just coloured squares was a good enhancement."

While he may not have meant for such popularity for his little work project, *Columns* went on to become a significant release for Sega, eventually leading to its own distinct breed of tile-based puzzling. It was a hit, unexpectedly so for Jay, but went on to become the de facto puzzle game for many Sega fans. "I took notice when the game started to appear in gaming stores," recalls Jay. "It did pump my ego a bit." Despite its familiarity, there continues to be a humbleness about its original creator, even all these years later. "On occasion I thought it would be fun to go into a gaming store and proclaim myself as the creator of the game," he admits, "but since I had no means of proving it, I figured it wouldn't be a worthwhile nor rewarding endeavour."

THE MAKING OF Fantasy World Dizzy

Dizzy's original outing was a slow-burn success, but the follow-up was an overnight sensation. The Oliver twins tell Retro Gamer how they capped their trilogy with arguably Dizzy's greatest adventure – Fantasy World Dizzy

Words by Rory Milne

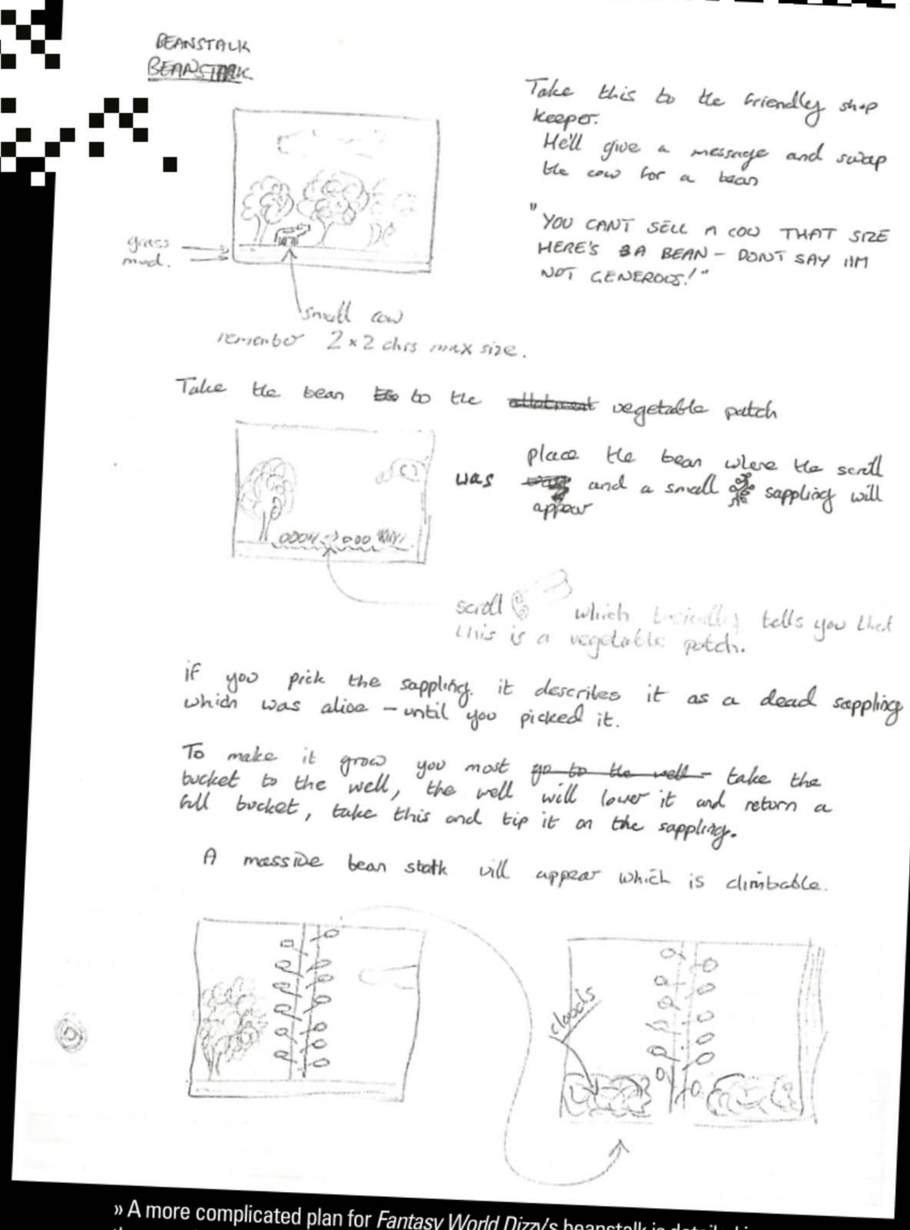
IN THE KNOW

- **» PUBLISHER:** CODEMASTERS
- **» DEVELOPER:** THE OLIVER TWINS
- **» RELEASED:** 1989
- **» PLATFORM:** AMSTRAD CPC, VARIOUS
- **» GENRE:** ADVENTURE

Releasing a sequel to a popular game was far from a given in the Eighties. That's not to say that developers were adverse to following-up chart-topping titles, but this approach was tempered by the knowledge that sales of a well-reviewed original game would typically eclipse those of a poorly-reviewed sequel. That said, a follow-up with good write-ups could potentially attain bestseller status, and 8-bit coders Philip and Andrew Oliver's Treasure Island-set successor to *Dizzy* had done just that. But as popular as their titular hero Dizzy's first two adventures had been, the twins next put their egg-shaped hero in a junk food-themed *Pac-Man* clone, as Philip explains. "It was pretty obvious from *Treasure Island Dizzy* being so successful that we had a *lot* of *Dizzy* fans, but *Fast Food* was a weird kind of accident," the developer says of the *Dizzy* spin-off. "We loved *Pac-Man*, and so one Friday night, we just said, 'We could knock out a *Pac-Man* game really quickly, we can have it finished by Monday morning if we just knuckle down!' And that's what we did. But the reason *Dizzy* was popular was because of the adventures, and we wanted to move *Dizzy* on. We wanted to do the biggest, best *Dizzy* adventure that we could."

The plan had to wait, however, as the twins' next three games were non-*Dizzy* projects. But once they had cleared their slate, they looked to a favourite BBC Micro title for ideas on how to begin Dizzy's third adventure – *Fantasy World Dizzy*. "Dizzy being locked in a dungeon came from *Castle Quest* for the BBC," Philip says. "It was an interesting game where you started in a single room where you had been imprisoned, and you had to get out, and we just thought that was a really nice intro. But we also needed to lock Dizzy in a single location to teach players to pick an object up and take it where it needed to be used. If we had allowed people to explore too much, they might not have realised what they had to do."

» Certain obstacles in *Fantasy World Dizzy* require precise timing, such as this malfunctioning portcullis.



» A more complicated plan for *Fantasy World Dizzy*'s beanstalk is detailed in the game's design documents.

The Olivers wanted to encourage players to explore, and so they designed a bigger world for their latest *Dizzy* project. "Our belief was that if we were going to improve on Dizzy and *Treasure Island Dizzy* then we needed to be a little bit bigger, but also a little bit richer in every aspect of the game," Philip considers. "So everything had to be better, we had to improve every area. There had to be more interesting locations, more narrative and more characters."

But rather than making these additional characters opponents for Dizzy to overcome, the twins instead decided to give him allies that could help him solve puzzles. "While working on *Treasure Island* we were surprising ourselves, because by being clever we could actually get a lot in, so we put in some enemies," Andrew says of the characters in *Fantasy World Dizzy*'s predecessor. "But they were just things to kill, and we wanted a game that was about puzzle-solving, not killing, so for *Fantasy World Dizzy* we said, 'We need to make characters that are *obviously* Dizzy's friends,' so we made them look like Dizzy."

As well as handing out advice and items, one of Dizzy's friends – the eternally sleepy Dozy – also added a pinch of humour, which Philip insists wasn't inspired by a deckchair related 'accident' that Andrew had. "We had the idea that Dozy would be at the furthest edge of the map, and so we had to make sure that there was something there that stopped players going any further," Philip reasons. "So we decided to make it a pier. It was Dozy at the seaside, so why not stick him in a deckchair? That made sense. Not that I'm referencing the fact that I did this to Andrew! I mean, I did horrifically injure Andrew in a deckchair once, but that's another story. So when we put Dozy on the end of the pier, we just thought, 'Hah! Wouldn't it be funny if you could kick him in?' We didn't have room for more graphics, but it didn't need any more, we just moved the sprite to kick him off!"

CONVERSION CAPERS

How the different versions of Fantasy World Dizzy stack up

AMSTRAD CPC

■ As it was designed for the Amstrad, it's not surprising that the CPC original is top-notch. Its environments are designed around the chosen four-colour palette, so they look great. Responsive controls make the game's platforming a joy, and its lively tunes are never repetitive.

ZX SPECTRUM

■ Converted by the Olivers, the Spectrum iteration is as close to the original as you could expect. On the downside, there's a little colour clash, but the game has more colours on the Sinclair systems than on the CPC. The Spectrum 128K version also has a spoken welcome message.

COMMODORE 64

■ Like the first two *Dizzy* adventures, the C64 *Fantasy World* was ported by Ian Gray. This adaptation is a faithful one, although it turns the upside-down Australian stage the right way up. It adds a border graphic and death animation that the original doesn't have, though, and it sounds great.

AMIGA

■ The team that brought *Fantasy World Dizzy* to the Amiga, ST and DOS delivered everything you could hope for an upgraded conversion. All three versions have much-improved visuals, more collectibles and extra screens, but the Amiga port is the best thanks to its superior soundtrack.

ATARI ST

■ In-game music quality aside, the ST *Fantasy World Dizzy* is identical to the Amiga version. As with the Commodore port, the new levels in the ST game contain pick-ups that net you points. There aren't any new puzzles in them, either, but they do test you with some tricky platforming.

DOS

■ This is the poor cousin of the 16-bit versions in terms of audio – there's single-channel chiptune music pregame and sparse sound effects in-game. Otherwise, it replicates its Amiga and ST counterparts, including their cutscene interactions between Dizzy and his friends.

GUIDE TO FANTASY WORLD

ESCAPING THE DUNGEON

■ Bribe the troll with the apple, and he'll tell you to throw the jug of water on the fire to put it out. Next, walk through the fireplace, give the stale bread to the hungry rat and he will run off, leaving a clear path to the dungeon exit.

CROSSING THE BROKEN BRIDGE

■ Find a boulder and the bone, and then swap the bone for the boulder next to the Armorog. Zoom past the hawk, drop both boulders into the water under the broken bridge to raise the floating platform, and then use that to cross the water.

CALMING THE DRAGONS

■ Get the sleeping potion from Dozy – he's three screens to the left of the broken bridge. Once you have done that, drop the potion next to the wide-eyed dragon in order to slip your way past him. Take the dragon egg from the Cloud Castle to the dragon's lair to get past the lair's inhabitant.

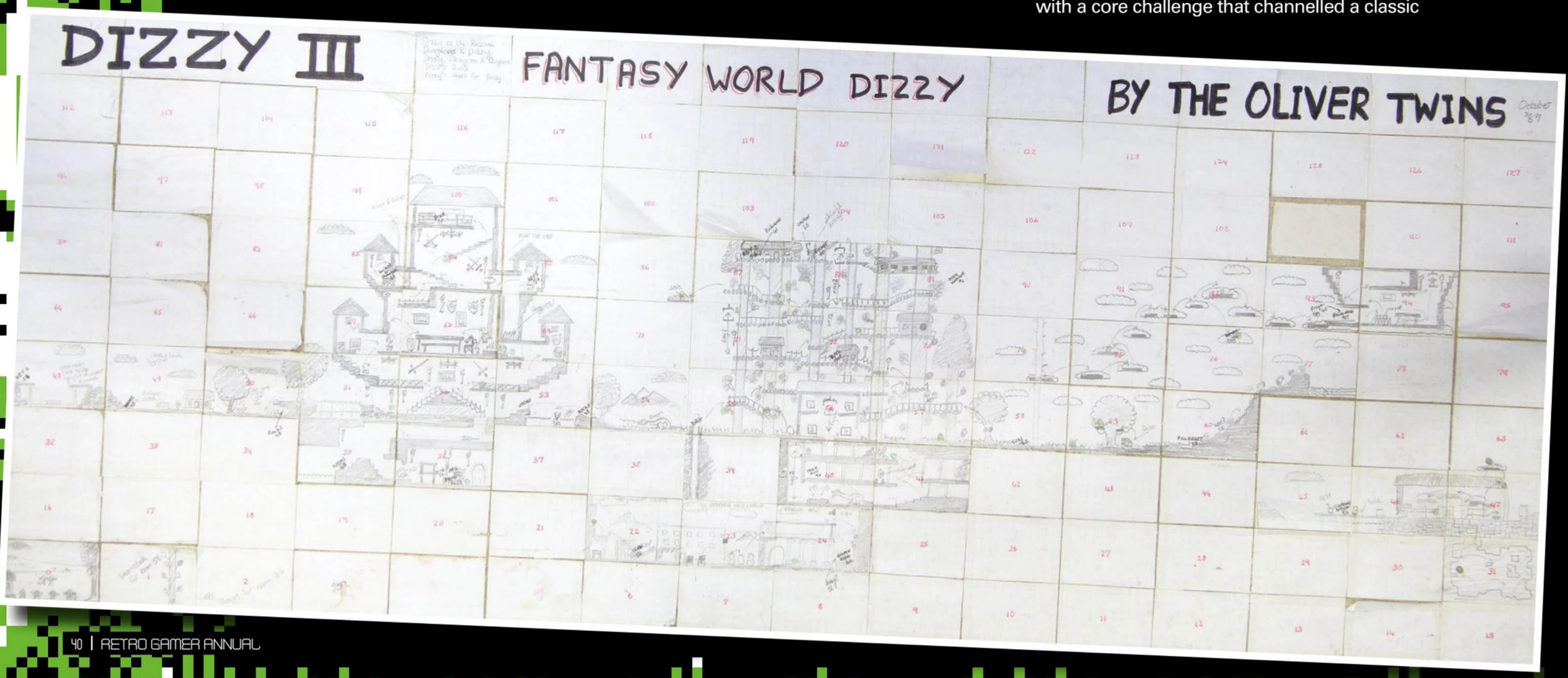
» The Olivers are listed in 2019's *Guinness World Records Gamer's Edition* as the most prolific 8-bit developers.

» The Olivers' original map for *Fantasy World Dizzy* shows a right-way-up Aussie section.

This one act of amusing violence aside, the Olivers wanted Dizzy to be a pacifist focused on puzzle-solving in order to avoid overcomplicating his latest adventure. "Dizzy was not about combat," Philip asserts. "We had done that in Super Robin Hood and Ghost Hunters, and this was deliberately a non-combat game. We also wanted to have the fewest number of buttons, because having another button would make the game twice as complicated. The idea of somersaulting and landing on something's head was not a concept that we had thought of – we hadn't seen *Super Mario Bros* at that point."

But while Philip and Andrew hadn't yet encountered Nintendo's seminal platformer, the brothers had been exposed to classics from a different medium, and these helped inform their ideas for *Fantasy World Dizzy*'s puzzles. "We wanted to make the puzzles relevant to a story, and the *Looney Tunes* cartoons set out very clear objectives," Philip recollects. "So in *Tweety Pie*, Sylvester had to catch the bird. But the thing that made the comedy was that what you *thought* would happen *didn't*, and Sylvester's failure opened up other opportunities." Andrew agrees, and explains how these opportunities inspired the twins to link their game's puzzles together, "We thought, 'What we've got to do is link opportunities together so that when you do *one* thing it will enable *something else*.' That was a chain, and it became *far* more interesting when you had a chain of events."

Many of *Fantasy World Dizzy*'s chained puzzles boiled down to unlocking access to more of the game, but the Olivers decided to compliment these with a core challenge that channelled a classic



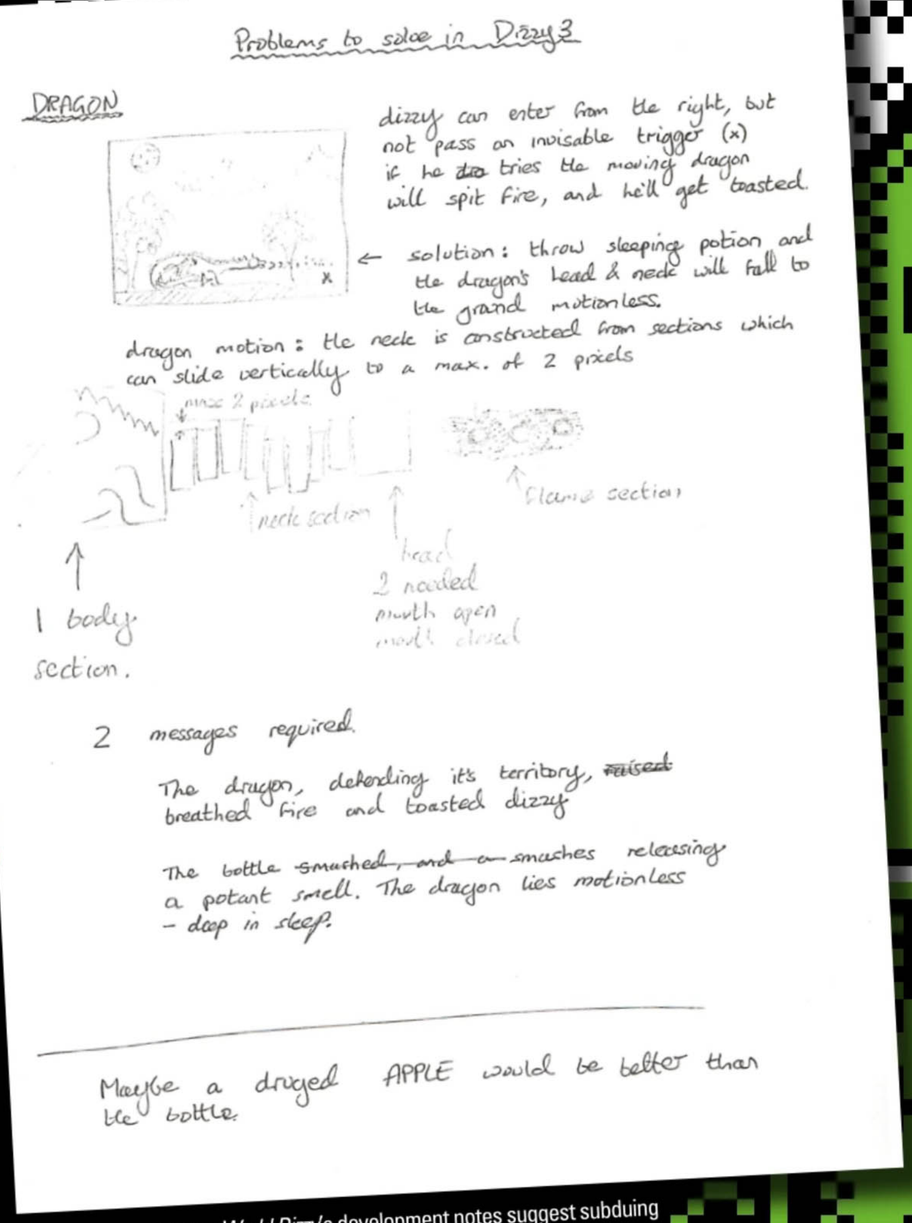
How to beat Fantasy World Dizzy's most memorable puzzles

GROWING THE BEANSTALK

■ Crowbar open the well and jump down, then trade the cow with the shopkeeper for the magic bean. Jump back up the well, get the bucket and fill it with water from near the volcano. Lastly, plant the bean in the fertiliser and water it.

RESCUING DAISY

■ Get the rug from the dragon's lair, then jump your way up the beanstalk, and then from cloud to cloud until you reach the lofty Cloud Castle. Throw the rug over the daggers so that you can cross them, and then finally pull the lever to lower the lift and free your beloved Daisy.



» *Fantasy World Dizzy*'s development notes suggest subduing the game's wide-eyed dragon with a drugged apple.

fairytale. "Obviously the big chain of events in *Fantasy World Dizzy* was *Jack And The Beanstalk*," Philip points out. "So you needed the cow and had to swap it for a magic bean, plant it, grow a beanstalk and climb it to get into the Cloud Castle so that you could rescue Daisy and get out." Andrew qualifies his brother's summation, "But you would be thinking halfway through: 'Why do I need a bucket?' You thought you had beaten the puzzle by planting the magic bean, but that didn't work. The bucket was empty, but there was water. So very quickly we could make little stories out of key-and-lock puzzles chained together."

Given that their game's puzzles relied on carrying objects to obstacles, the twins realised that by putting a limit on the items that Dizzy could carry they could add tactics and additional platforming to Fantasy World Dizzy's challenge. "Players had to think when they found a new object: 'Do I want to take it?' So they had to use strategy," Philip argues. "It also allowed the player to think that Dizzy's pocket was only a certain size – even if it could fit ladders and buckets in it, and a cow! Although we did call it a Pygmy Cow, because were you *really* going to fit a cow in your pocket? So it was an attempt to make people think: 'Do I need it *now*?' And if they did pick it up what did they have to put down, plus the thought: 'Am I going to screw myself putting it down in the wrong place?'"

In addition to limiting Dizzy's inventory, the Oliver twins also differentiated *Fantasy World Dizzy* from its predecessors by turning some of the game upside-down. "It was the right way up when we hand-drew it," Philip recollects. "It was only later that we said, 'Wouldn't it be fun if the well was really deep, and then you fall out onto the other side of the world? We can do it upside-down!' It made everything look interesting, but it also played differently because we changed the controls around so that 'up' was 'down'. We were putting the market down there, so we needed a shopkeeper. It was the other side of the world, so we made him an Aussie and put one of those hats on him with corks on strings! It was a cheap trick, but it provided comical entertainment."

Perhaps less amusing was that the twins were under pressure to complete Fantasy World Dizzy in time for the festive sales period, and although it wasn't reviewed until the new year, the quality of Dizzy's previous adventures ensured that this didn't affect his latest game's sales. "It was pretty important to hit the deadline and get it out quickly because that was the last good Christmas for the 8-bit machines," Philip says of gaming's changing landscape at the dawn of the Nineties. "The sales were spectacular, as expected. Codemasters, the distributors, retail and both of us knew that it would be a bestseller."

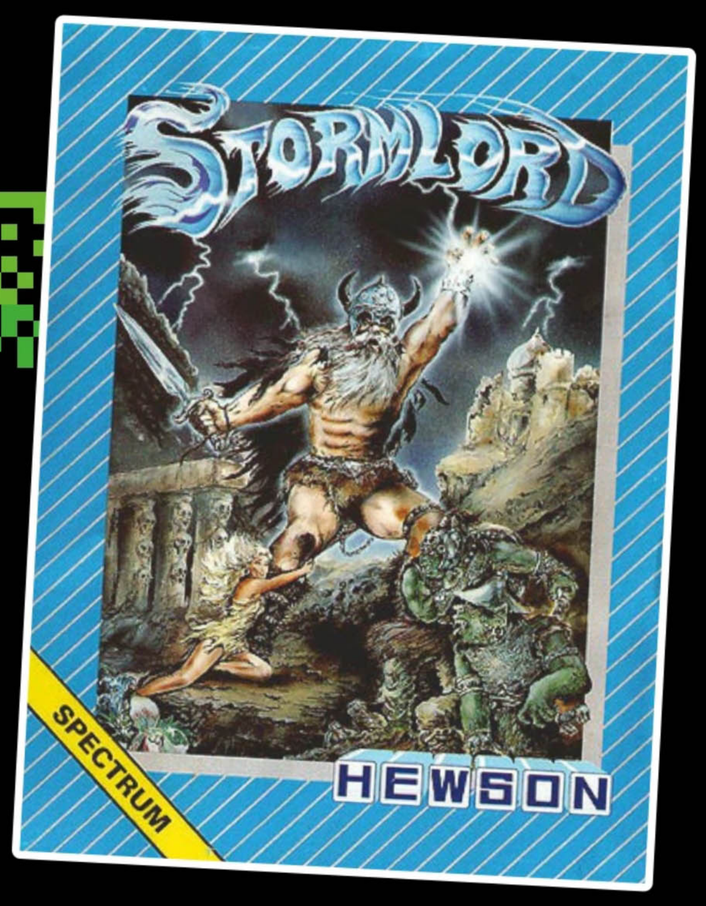
Decades after the release of their third – and likely best – *Dizzy* adventure, the Oliver twins look back on the puzzle-filled platformer with pride. Andrew views the game as an evolution that marked the end of an era. "It moved *Dizzy* on significantly, and it was pretty much all our work," he says. "Beyond that, we started getting more teams and we moved to an office, so we're really proud that we did *Fantasy World Dizzy* at home in our bedrooms." Philip gets the last word on *Fantasy World Dizzy*, and singles the game out as a career high. "I'm fond of and proud of what we managed to create. It was one of our best," the designer enthuses. "It was a really enjoyable time where there were no distractions. Our heads were down working long hours but loving it and loving the feedback and the praise. Everything was awesome; *Fantasy World Dizzy* just hit the sweet spot, really." ✱

» We never knew Dizzy had a soft spot for hard boozing, no wonder he rolls everywhere.

» Dizzy encounters a problem that we've all likely had, in some form or another.

THE MAKING OF

Stormlord



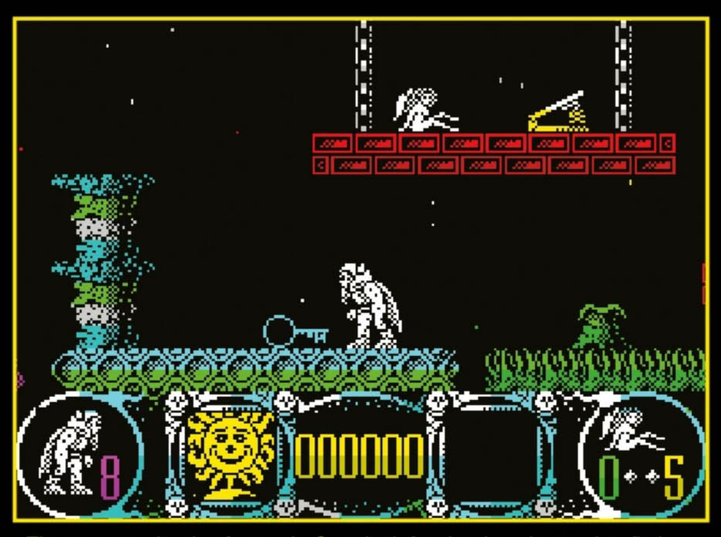
After producing a trio of hit sci-fi titles for Hewson Consultants, Raffaele Cecco decided to go in a different direction. Retro Gamer learns how this led the celebrated developer to create his fantasy puzzler Stormlord

Words by Rory Milne

Raffaele Cecco's late Eighties' sci-fi shooters *Exolon*, *Cybernoid* and *Cybernoid II* were loved by gamers and the press alike, and so you might imagine that the designer would've been tempted to continue this run with a fourth sci-fi title. When asked, however, he explains that this wasn't really a consideration. "I was simply bored with the whole sci-fi space genre, as my last few games had been of that type," Raffaele admits. "Although when I designed the games I was more concerned with how the game objects interacted at a more abstract level, rather than allowing the 'space' environment to guide the design of the gameplay. So the sci-fi graphics were just decoration really. However, as I was still drawing my own graphics at that point the thought of being able to explore some different styles was appealing."

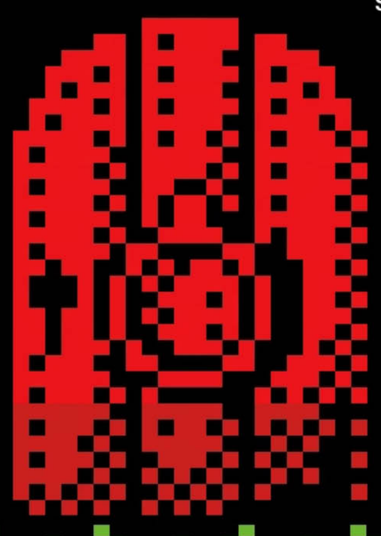
The different style that Raffaele settled on for his latest project was fantasy, which the developer largely credits to his reading and listening habits at the time. "I'd read *Lord Of The Rings*, and I was listening to a lot of early Queen music at that point," Raffaele notes. "Along with their popular commercial releases, they made quite a few more obscure songs alluding to fairies and other fantasy ideas. I thought that whole fantasy environment was packed with nice ideas, so I decided to run with it. As usual, Hewson was very supportive and didn't mind taking risks with something different."

With a genre in place, Raffaele's thoughts next turned to gameplay, and although it's often supposed that the designer's work in progress – *Stormlord* – took his earlier title *Exolon* as a starting point, this wasn't the case. "I can't say that *Stormlord* was a successor to *Exolon*," Raffaele argues. "For a start, *Stormlord* was a scrolling game whereas *Exolon* was flip-screen. There was probably more similarity to *Equinox*, thinking about it, as that had more of an open environment to explore than *Exolon* or *Cybernoid*. Looking at the games, you can see a kind of similarity, as all the graphics were drawn by me and I adopted a style that fit my limited abilities as an artist."

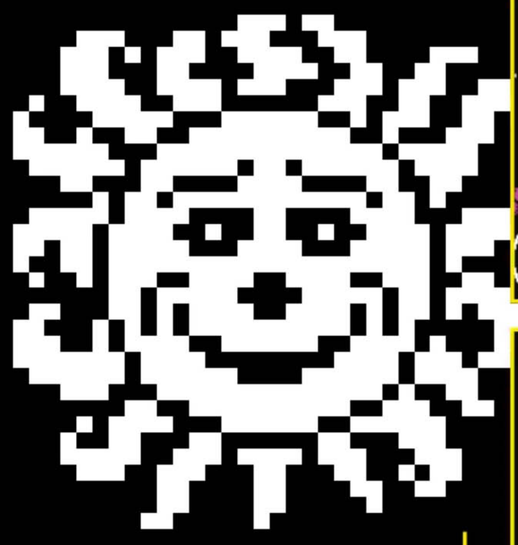


» The many puzzles that feature in *Stormlord* often involve a long trek to find a required object.

One artistic ability that the developer considered to be beyond him was the animation of *Stormlord*'s Viking-like player character, and so he secured the services of the artist who had created the main sprite for *Exolon* – Nigel Brownjohn, although the animator was subsequently asked to give his first draft of *Stormlord* a bit of a makeover. "It looked a bit like *Shrek*!" Raffaele says of the initial appearance of his protagonist. "I'd have to speculate about what happened with the character, but I'm guessing it was a rejected first draft from the animator, Nigel Brownjohn, who also animated the Exolon character – I couldn't animate people. It looked more like a baddie than a hero, and I have a vague recollection that Hewson didn't like it. I don't think his rocket backpack actually did anything, especially if it was an early draft, so it would have been a straight graphics-swap. The final character was more of a generic, bearded fantasy hero, but I guess the horns poking out of his helmet gave him that Viking vibe."



Lord



» The springboards featured in *Stormlord* can catapult the game's hero great distances across the night sky.

» Interestingly, a couple of *Stormlord*'s opponents are chess pieces that fit nicely into the game's surreal world.

IN THE KNOW

» **PUBLISHER:** HEWSON CONSULTANTS

» **DEVELOPER:** RAFFAELE CECCO AND NICK JONES

» **RELEASED:** 1989

» **PLATFORM:** ZX SPECTRUM, VARIOUS

» **GENRE:** RUN-AND-GUN

» Raffaele Cecco has worked on a number of 8-bit classics for Hewson Consultants.

Aside from *Stormlord*'s main character, Raffaele handled all of the other animation duties for his evolving game himself, which thanks to the designer's then favourite rock band included waves of deadly pawns and knights. "Again, going back to me listening to early Queen music, there was a track called *March Of The Black Queen*," the developer recalls. "That track always made me think of a chess game for obvious reasons, so I popped in some chess pieces. I actually thought they went rather well with the fantasy/fairy based ideas. Also, the fact that they didn't require any animation made them extra appealing, as I could just slide them along the ground."

However, animation was definitely required for one particularly innovative mechanic that Raffaele devised, where springboards launched *Stormlord* into a night sky filled with stars allowing the hero to travel great distances over the fairy realm that his quest took place in. "Underneath the fancy flying animation, this feature was really just a teleporter – the same as the ones in *Equinox* and *Exolon*," Raffaele contends. "Being able to move instantly from one area of the map to another opened up all sorts of nice puzzle/gameplay options and allowed me to use all the areas of the environment. So the feature was put in as a useful game design tool."

But even in situations where springboards weren't available, Raffaele ensured gravity wouldn't be too much of a problem for his hero by giving him both a standard and a supercharged jump. "I liked the *R-Type* energiser, but I don't think that was the influence," Raffaele muses. "I don't really remember what influenced the variable height jump, but the idea was probably based around making the character more responsive and giving me more flexibility in how I could design levels. For example, I could force the player to make quick, short jumps in certain areas, whereas in others they would need big leaps to clear an obstacle."

The designer also had another mechanic under development that worked in a similar way, with its purpose being to arm his game's hero with short-range thunderbolts and long-range swords activated by tapping or holding down the fire button. "Rather like the variable height jump, the different weapons allowed me add more gameplay variety," Raffaele reasons. "The idea was that the player could pretty much complete the game with one weapon, but by being a bit smarter ▶

CONVERSION CAPERS

How all the different Stormlord versions stack up

AMSTRAD CPC

■ Given that the CPC *Stormlord* was developed by the same team that made the Spectrum original, its no surprise that the two games are similar. Besides its colourful visuals, the main difference with the Amstrad port is that some of its waves of opponents are triggered earlier while others are less angry.

C64

■ Coded by the original's cocreator Nick Jones with graphics by Hugh Binns. The C64 *Stormlord* has a catchy chiptune, but its biggest departure from the original is that it has far less enemies, which naturally makes it a bit easier than the game its based on.

ATARI ST

■ Rather than coloured versions of the bitmaps from the Spectrum, as earlier 16-bit Hewson ports used, the ST *Stormlord* has new visuals that take advantage of the Atari system's graphics hardware. Besides improved aesthetics, the ST *Stormlord* adds two extra levels set in a castle.

AMIGA

■ Essentially a better-sounding version of the ST *Stormlord*, the Amiga version boasts the same two additional levels and redesigned visuals. Like the ST iteration, the Amiga *Stormlord* has less intense waves than the Spectrum version, which often bare little resemblance to the creatures in the original.

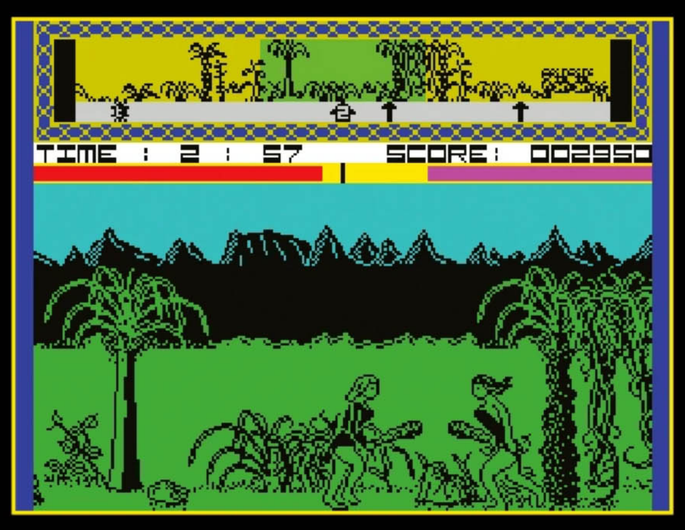
PC

■ Although it looks like the Amiga version, the DOS *Stormlord* sounds like the Spectrum original. The DOS port replaces the original's flying through the night sky mechanic with being carried by an eagle across levels, which lets you assess the forthcoming challenges.

MEGA DRIVE

■ Just as the ST, Amiga and DOS *Stormlord* versions are an evolution of the Spectrum original, the Mega Drive adaptation is an enhanced version of the 16-bit iterations. As well as improved sound, this version adds four stages that combine elements of the existing fairy and castle levels.

COURTING CONTROVERSY



LEGEND OF THE AMAZON WOMEN

■ Besides having a cover depicting practically naked Amazons, US Gold's beat-'em-up was advertised for six months before its release. Complaints over delays and deformed nudes might have faded had the game been good, but *Amazon* suffers from decidedly dull gameplay.

GAME OVER

■ Inspired by *Ghosts 'N Goblins*, and every bit as hard, *Game Over* became better known for the partially exposed nipple on its cover. The controversy was soon nipped in the bud, however, as complaints over the game's initial magazine adverts resulted in subsequent advertisements and the box art for the UK release being censored.

▶ with their weapon choice they might find some sections less frustrating to complete."

As well as weapons and jumping – and the shoot-'em-up sections and platforming that these mechanics facilitated – Raffaele implemented a third gameplay strand in the form of cause-and-effect puzzles. "The puzzles fitted nicely with the fantasy 'quest' style of the game and the exploration that was required to complete the levels," the designer points out. "*Exolon* and *Cybernoid* were almost totally linear, although you did have to work out the safest way off each screen. So it was novel to drop the pace of the game a little and get players to think. I hadn't made a game before with proper puzzles, so it added interest to my work."

But despite the addition of puzzles to Raffaele's proven formula, his latest project still reflected his preference for arcade titles over arcade adventures. "*Stormlord* was fundamentally an action game, so I didn't want to go off-road too much. Also, action games were my own preference," Raffaele considers. "In most cases, the puzzles were merely variants of lock-and-key puzzles, a bit like the

» Often a choice is given in *Stormlord* to platform or blast your way through a particular section.

> "THERE WAS NOTHING MORE TO SEE THAN YOU'D GET IN ANY RENAISSANCE PAINTING OR FANTASY ART"
>
> Raffaele Cecco

coloured pass-cards in *Equinox*. However, having a different graphical effect, like the bees flying towards the honey, made for a more satisfying experience when you solved the puzzle. I felt the simple puzzles punctuated the action nicely but without being too distracting."

A second punctuation of *Stormlord*'s action followed, as Raffaele introduced romantic bonus rounds between stages where his hero could gain lives by sending hearts to fairies and collecting their tears. "Ha! I really liked that little subgame," Raffaele says with a smile. "Maybe I was trying to show a softer side of the main character? I think it just fitted in nicely with the whole fairy theme. However, peel away the graphics of that sub-game and what do you have? It was really a simple shoot-'em-up where the 'bullets' were hearts, the 'aliens' were fairies and the 'pick-ups' they dropped when 'shot' were tears."

While Raffaele was adding *Stormlord*'s sweet shooter, and polishing the game's core levels, his publisher Hewson Consultants was conducting a blitz of prerelease marketing, but the magazine screenshots and cover tape demos that resulted from Hewson's publicity drive proved somewhat controversial. "I remember the naked fairies caused a few raised eyebrows," Raffaele acknowledges.

More 8-bit games that caused a stir

ATHENA

■ Considering how cute *Athena*'s in-game graphics are, its ironic that the coin-op conversion's front cover provoked such a heated debate. Besides concerns over the box art's near-naked Athena, Ocean Software also received a complaint that a section of the armour worn by the Minotaur on its cover looked like a giant phallus.

BARBARIAN

■ The decision to put a scantily clad Maria Whittaker on the front cover of *Barbarian* was a stroke of genius, as the ensuing furore completely overshadowed the game's graphic decapitations. Perhaps to avoid accusations of sexism, *Barbarian* also had a half-naked guy on its cover, but this did little to quell the controversy.

VIXEN

■ Following *Barbarian*'s successful marketing ploy, Martech Games followed suit by giving Vixen a cover featuring a barely dressed Corinne Russell. Despite impressive digitised animation, the game itself was bland, and after Boots refused to sell it, Martech released a version with just a headshot of Corinne on the cover.

DEVELOPER HIGHLIGHTS

EXOLON
SYSTEM: VARIOUS
YEAR: 1987

CYBERNOID
SYSTEM: VARIOUS
YEAR: 1988

DELIVERANCE (PICTURED)
SYSTEM: VARIOUS
YEAR: 1990

» Freeing *Stormlord*'s last fairy isn't difficult, but getting to her prison is a serious challenge.

» A recurring challenge in *Stormlord* involves tempting bees away from somewhere with honey.

"But I don't know what all the fuss was about to be honest, as there was nothing more to see than you'd get in any Renaissance painting or other fantasy art. I thought it fitted in well with all the other graphics and there was nothing gratuitous about it. It certainly wasn't my intention to cause any kind of controversy or publicity because of it. Fun fact: I just couldn't draw the lower parts of the legs on the big fairies properly, so that's why they ended up stood in pots!"

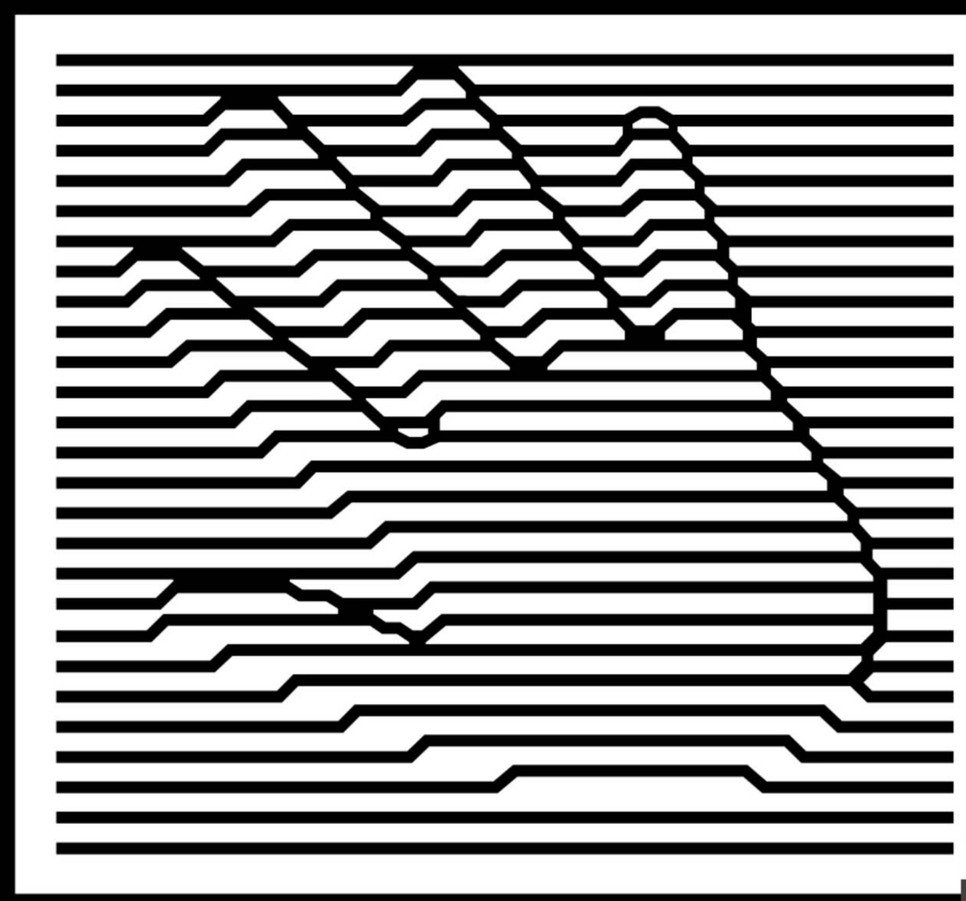
Potted or otherwise, the fuss caused by Raffaele's naked fairies in the run up to *Stormlord*'s release didn't negatively affect the response to his game when it ultimately came out. "I remember that *Stormlord* reviewed very well, albeit without the impact of *Exolon* and *Cybernoid*," Raffaele recollects. "I was pleased, as the game was quite a diversion from my successful previous titles. I didn't know what the sales figures were like – remember that the game was released quite late in the ZX Spectrum's life. However, Hewson did release the game and/or licence the game for other platforms. I remember seeing some of the 16-bit versions and remarking how great the graphics looked. In many ways, the 16-bit versions manifested what I saw in my mind when I was developing the Spectrum version."

In reviewing his game decades after its release, Raffaele is satisfied that *Stormlord* couldn't have been improved much in the time allowed for its development and proud that it's rated just as highly as his earlier sci-fi titles. "I don't know what I could have changed within the time I had – ultimately, that was the limiting factor," Raffaele concedes. "With more time, I would have included more puzzles and different baddies, more levels, more graphics and so on. But I'm quite proud of *Stormlord*, as it was something different for me. There was certainly an element of risk in releasing such a game after the success of *Exolon* and *Cybernoid*, but it's great to see it listed alongside all the sci-fi titles. And with all the different platform versions that came out later, it's good to see a bit of a legacy there too." ✱

The BITMAP BROTHERS

*How the **16-bit developer** made gaming cool*

AP RS



When The Bitmap Brothers burst on to the scene, it did so in style, not only making a series of stylish games but becoming familiar faces in the media in their bid to becoming gaming's first rockstars

Words by David Crookes

Mike Montgomery, cofounder of The Bitmap Brothers, looks to be in a good mood. It matters not that our Skype connection keeps cutting out, leaving long periods of frustrating silence. He is patient, understanding and keen to talk about the company he cofounded with Eric Matthews and Steve Kelly in 1987.

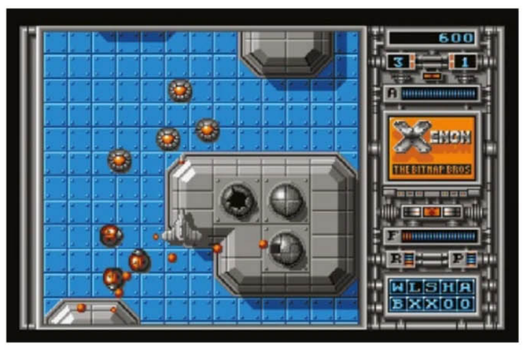
The mood, however, changes ever so slightly when we put it to him that The Bitmap Brothers was probably the first rockstar developer. He immediately picks up on a single word. "You said probably," he answers immediately. "Let's get one thing straight, we were the first rockstar developers. And it was a conscious decision to make us so."

There is no doubt that The Bitmap Brothers was achingly cool. Based in London, the small team did things their own way from the very start, quickly rallying against the trend for publishers to promote themselves at the expense of the coders, artists, musicians and designers who put in the hardest work.

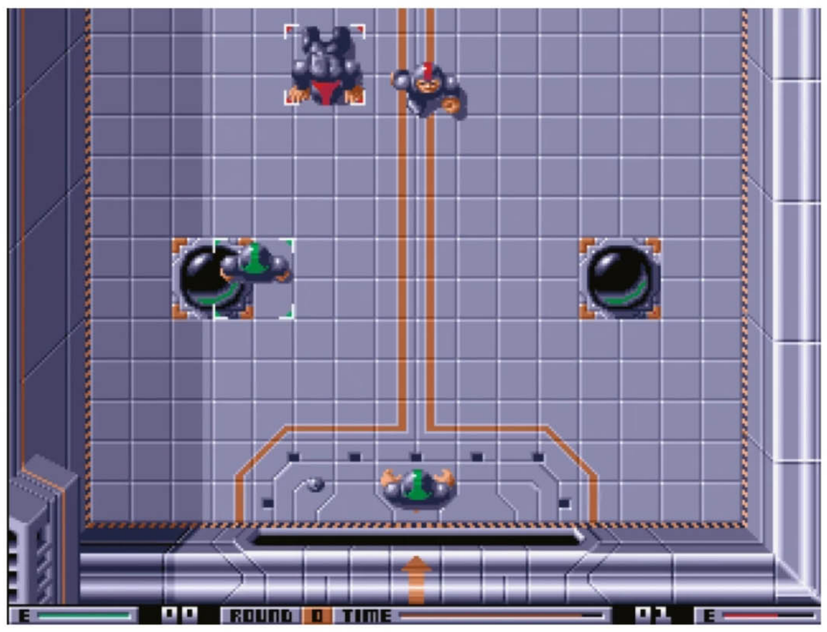
This, as Mike says, was entirely deliberate. "The publishers were taking all the credit and nobody really knew who the developers were at that time," he explains. "They just didn't want to promote the people who created the games because they feared it would make them too strong which was completely wrong." It didn't take long for The Bitmap Brothers to change that.

Indeed, just a few months later, in 1988, the developer's first game was released – the shoot-'em-up *Xenon*, created on the Atari ST. The Bitmap Brothers was credited on the intro screen while Eric's face appeared in at the start declaring "level one". On the back of the box, in the bottom left-hand corner, there was mention of *Xenon* being a "mega creation from the Bitmap Brothers". This was just the start.

Before long, it became obvious that *Xenon* had become a hit, not only on all of the major 8-bit and 16-bit computers of the day, but in the arcades too. This gave the Bitmaps bargaining power for its second game, *Speedball*, a violent derivation of handball and American football with a stark glint of reflective steel, and the fledgling company flexed its muscle like no other developer had done before when it began to tout the title around various publishers.

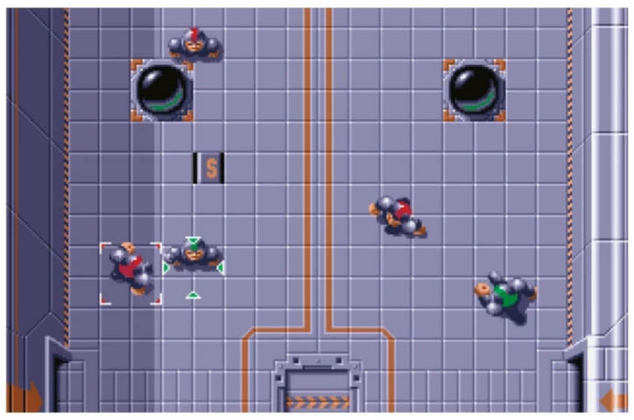


» *Xenon* had graphics by Eric Matthews and scored highly with reviewers.



Although a few turned the Bitmaps down, Image Works, a publishing label of Mirrorsoft which was, in turn, a division of Mirror Group Newspapers owned by media proprietor Robert Maxwell, decided to take *Speedball* on. Mike then listed his demands and soon Image Works had agreed to give the ▶

» The award-winning *Speedball* took just six weeks to actually code but four more months to fine-tune.



» Speedball 2: Brutal Deluxe was a big improvement on the original and a critical hit.

"If Image Works didn't put our name on the box, then we wouldn't have worked with them"

Mike Montgomery

▶ Bitmaps full control over all aspects of the game, from the title itself to the way it was sold in shops. It even allowed the Bitmaps to determine the size and position of its logo on the packaging.

"If Image Works didn't put our name on the box, then we wouldn't have worked with them," Mike reveals. "And if that sounds bolshy – or at the very least determined – then, yes, I guess that's what we were."

A marker had been laid and it wasn't long before the Mirrorsoft marketing team was being told The Bitmap Brothers was made up of rockstar devs, prompting a major push to ensure they really were treated as such. It was, in many ways, a far cry from Mike's beginnings as a former Woolworths manager but as a firm friendship with graphics artist Eric and coder Steve grew ever closer, usually over beers in the pub, it was time for the trio to step up a gear.

***Speedball* was, in many ways, a perfect game on which to continue building a reputation.** Making use of the artistic talents of Welsh artist Mark Coleman, a student at the Royal College Of Art, it had a unique style The Bitmap Brothers would call its own and a moody bass line courtesy of David Whittaker.

What's more, by this point, the core Bitmap team had taken up residence in Metropolitan Wharf, a converted warehouse on the north bank of the Thames. It was a large space in Wapping that Mike had picked up on a cheap annual rent and, while it meant more money could be put into game design, it was also edgy if not a little grimy – the perfect workspace for a developer keen to shake away the notion that games were made in small suburban bedrooms.

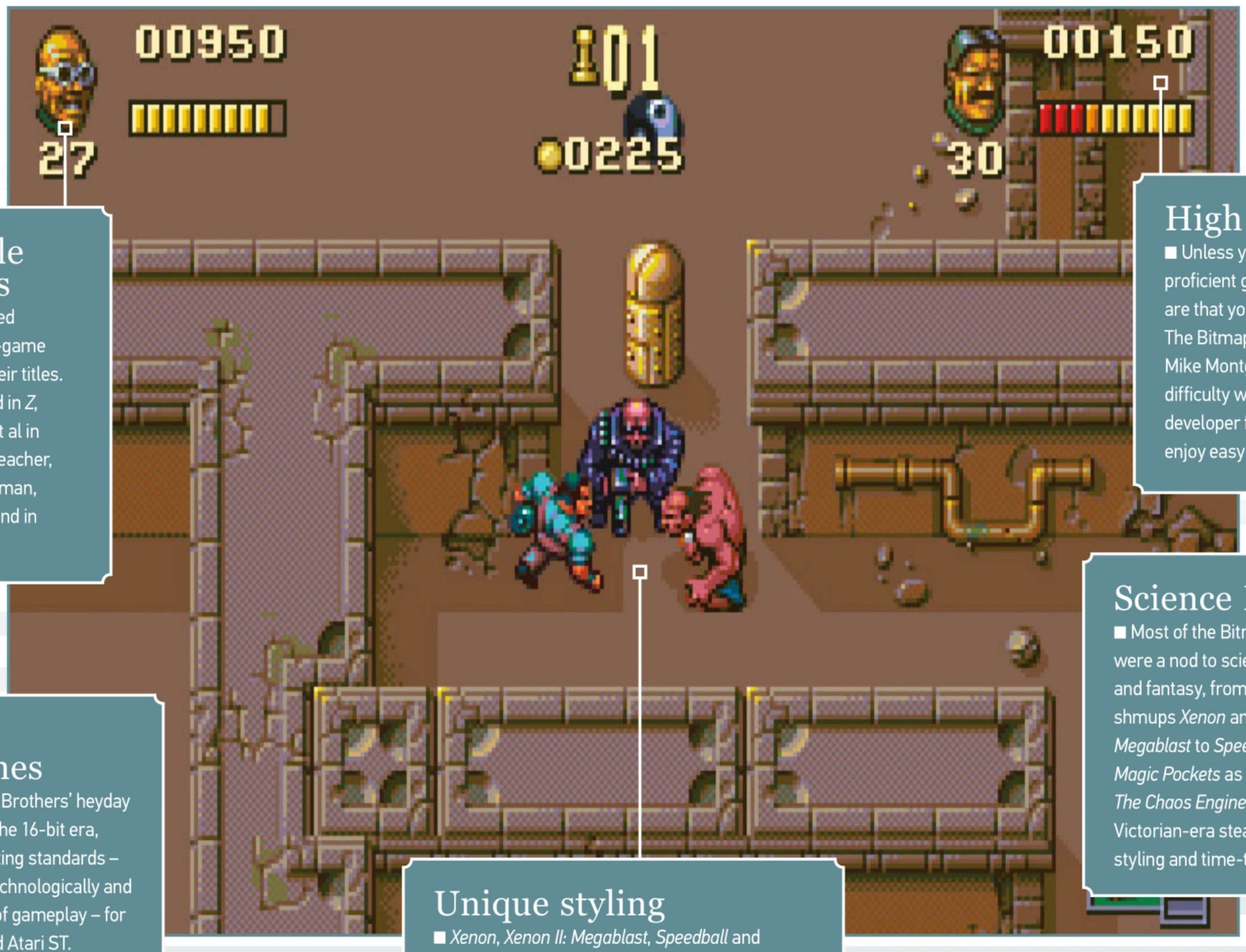
Today, such a setting would make for an ideal photoshoot, but back then

» Dan Malone is a very respected artist: this concept drawing of *The Chaos Engine* characters shows his talent runs deep.

Mirrorsoft had something else in mind. Aside from owning a boat, Robert had possession of a helicopter which would park on a landing pad atop the Mirror offices in Fleet Street three-and-a-half miles away. Rumours were that Robert would urinate from this pad on to the street below but the marketing bods at Image Works had something far less vulgar in mind for the Bitmaps (as rock 'n' roll as pissing on unsuspecting members of the public may appear at face value).

It had Mike, Eric and Steve pose with chopper, Eric exuding a pop star charm with his Ray-Ban shades, leather jacket fitted over a T-shirt tucked into a pair

The DNA Of A Bitmap Brothers Game



Identifiable Characters

■ The Bitmaps created many memorable in-game characters across their titles. Who could forget Zod in *Z*, Barry, Colin, Justin et al in *Speedball 2* or the Preacher, Thug, Navvie, Gentleman, Mercenary and Brigand in *The Chaos Engine*?

High difficulty

■ Unless you're an extremely proficient gamer, chances are that you struggled with The Bitmap Brothers' games. Mike Montgomery says the difficulty was deliberate: the developer felt nobody would enjoy easy games.

16-bit machines

■ The Bitmap Brothers' heyday came during the 16-bit era, its games setting standards – graphically, technologically and and in terms of gameplay – for the Amiga and Atari ST.

Unique styling

■ *Xenon*, *Xenon II: Megablast*, *Speedball* and *Speedball II: Brutal Deluxe* heralded a familiar chrome-like graphical style while *The Chaos Engine* nailed down an industrial look.

Science Fiction

■ Most of the Bitmap games were a nod to science fiction and fantasy, from the space shmups *Xenon* and *Xenon II: Megablast* to *Speedball*, *Gods*, *Magic Pockets* as well as *The Chaos Engine*, with its Victorian-era steampunk styling and time-travelling plot.

of skinny jeans. Steve stood to the left, learning on the machine, while Mike, assumed a moody look of indifference. Suddenly, rather than just have a bunch of screenshots to print, editors had faces and the kind of shot music mags would print. These guys weren't hunched over keyboards in their tiny, dimly-lit rooms, the narrative went. They were flying high. Rich. Successful. And cool.

It could have been different. Eric told *Amiga Power* magazine that *C&VG* had wanted to perch the lads on top of an arcade machine and have them wear space helmets for a photo to accompany *Xenon*. By doing things their own way and having their own photographs taken, they were able to manipulate their own positive image and not, as Eric said, look like "plonkers".

In reality, however, life was a different beast and what was also intended as a little mickey taking – a swipe against the all-too sensible gaming whiz-kids – became accepted as truth. "But we never actually had enough money," says Mike. "Sadly we may have been the popstars but the David Darlings of the early industry were the multimillionaires. We put so much money into development that we didn't make much personal money. I was driving around in an old banger when that photograph with the helicopter was taken."

Despite that, the Bitmap's star had risen and the developers were enjoying their time in the spotlight. *Speedball* earned itself a prestigious Game Of The Year award for the best 16-bit title at the Golden Joystick Awards in 1989 while the developers themselves were named the best 16-bit programmers.

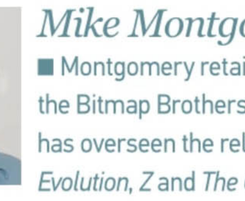
The same year also saw the release of the vertically scrolling shoot-'em-up *Xenon 2: Megablast*, originally for the Atari ST and Amiga. Published by Image Works again, The Bitmap Brothers' cool credentials were cemented thanks to the game having a blistering soundtrack courtesy of Tim Simenon, a DJ known for his work as Bomb The Bass.

Like the Bitmaps, he'd emerged on the scene in 1987, his debut single, *Beat Dis*, consisting largely of 72 samples. It reached number two in the UK Singles Chart and Simenon followed it up with Megablast (Hip Hop on Precinct 13) used for the *Xenon* sequel as both the loading music and, in more simplified form, as the background tune during the game. The hard work in sampling and resequencing the song for use in ▶

» *Magic Pockets*, released in 1991, featured some amazing sprite animation.

» The original *The Chaos Engine* was going to allow three players to co-operate with each other through levels rather than two.

» This was the image that highlighted to gamers just how cool it was to be part of The Bitmap Brothers.



Where Are They Now?

Eric Matthews

■ Eric Matthews left The Bitmap Brothers after designing *Z: Steel Soldiers* in 2001 and he became the design and content manager for Sony Computer Entertainment Europe. After working on a string of *EyeToy* and *SingStar* titles, he became SCE's creative director for the London and Cambridge Studios and took his place as senior director of SCEE's Worldwide Studios Europe, eventually becoming vice president, a role he remains in today.

Mike Montgomery

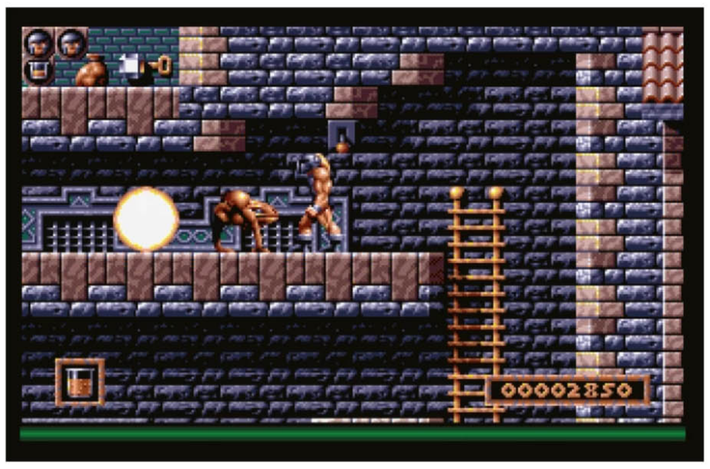
■ Montgomery retained the rights to the Bitmap Brothers' games and he has overseen the release of *Speedball 2 Evolution*, *Z* and *The Chaos Engine* in recent years. In 2004 he teamed up with his long-standing friend, Sensible Software's Jon Hare, and John Philips to found Tower Studios, porting *Sensible Soccer* and *Cannon Fodder* to mobile phones and releasing *British Lions Rugby*. Jon Hare took sole control in 2009 and, since then, Mike has worked as a consultant and freelanced for Slightly Mad Studios on *Project Cars*.

Steve Kelly

■ Kelly worked as a programmer on *Z: Steel Soldiers* and left The Bitmap Brothers shortly afterwards. From that point on, he didn't code another game and he is understood to be currently works in web technologies. There is very little information about him post-Bitmap: indeed, like Matthews, he did not consent to interviews in the excellent *The Bitmap Brothers: Universe* book published by Read-Only Memory, leaving a few potential stories untold.

Music Maestros

The musicians that enhanced The Bitmap Brothers' games



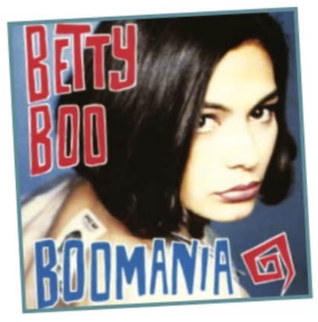
John Foxx (GODS)

■ Having started his career as the original lead singer of Ultravox, Chorley-born Foxx signed to Virgin Records and enjoyed moderate success as a solo artist with singles and albums that charted in the Top 40. After a brief spell away, he formed Nation 12 with Tim Simenon, indulging in electronica, and releasing *Remember* and *Electrofear (Beast Mix)* before creating the music for *Speedball 2* and *Gods*.

Bomb The Bass (XENON 2)

■ Created by Brixton musician and producer Tim Simenon whose breakout single was the samples-based *Beat Dis* which charted at number two in the UK, Bomb The Bass' blend of house and hip-hop exploded on its debut album *Into The Dragon. Megablast (Hip Hop On Precinct 13)* was used in *Xenon 2: Megablast* (hence the name). Bomb The Bass went on to produce five more studio albums.

Betty Boo (MAGIC POCKETS)



■ Perhaps the best-known of the musicians collaborating with The Bitmap Brothers, Betty Boo burst on to the scene on The Beatmasters' *Hey DJ / I Can't Dance (To That Music You're Playing)*. Her solo debut, *Doin' The Do* however, peaked at number seven in the UK charts and remains her most memorable hit. Featuring on the album *Boomania*, this song was remixed for *Magic Pockets*.

▶ the game was completed by David Whittaker and went down a storm.

This mixing of the music and game was groundbreaking and Martin Heath, who founded Rhythm King Records, was keen to keep the relationship going. "We used commercial musicians and pop stars because they knew what they were doing – they were professionals at doing these things," says Mike. "They also helped to promote our games and they gave us an edge: an edge in terms of the games we were making and the kind of marketing and promotion we sought." The vibe ensured the Bitmap's had the X-factor.

"The link with Rhythm King was great," says artist Dan Malone, who worked for Palace Software before ending up at The Bitmap Brothers in 1989. "I was really into music and clubbing and I could sense a real vibe around the place." Indeed, he fitted like a glove from both a professional and social standpoint.

> "We were constantly going out in the evenings after work, hanging out with whoever was around"
>
> Dan Malone

His graphics perfectly complemented that of Mark Coleman's and he hit off immediately with the likes of Eric Matthews and Graeme Boxall.

"We were constantly going out in the evenings after work, hanging out with whoever was around," Dan says. "Graeme liked to go out so he was a regular and we'd usually bump into the press: we'd hang out with Gary Penn [editor of *The One*] when he was in London and, if there was a night on, we'd go along. From my perspective, it wasn't a conscious effort to be rockstars or anything like that. It was just what it was."

Dan Malone had long been attracted to The Bitmap Brothers**.** "When I saw Eric's graphics on *Xenon* and what Mark had been doing with the other games, I really wanted to work with them. I loved Mark's style and while our colour palettes were different and our work is dissimilar, it worked well together. His work and my work created a Bitmap look and it was just a natural evolution."

Dan's first work for The Bitmap Brothers was on *Speedball 2*. "I spent about two or three weeks just messing around with stuff and I remember working really hard to figure out the perspective which I just couldn't get right," he says. "The idea was to be bigger and better, with a kind of isometric view at a 45-degree angle and that was tough. We needed the pitch to be twice the size. I had a lot of creative freedom."

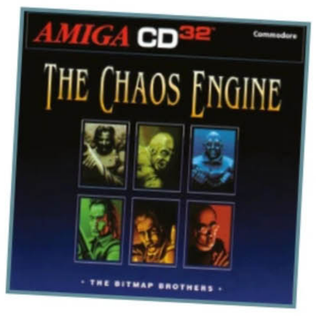
He was able to develop his own style which emerged as the use of a flat colour with a few shadow layers. "I didn't really have a particular look that I felt I had to adhere to," he says. "We were basing it on the original game and evolving what Mark had done." Richard Joseph provided the audio and effects, working with music written by a former member of The Fall, Simon Rogers, who was working with John Foxx as part of the group Nation 12. "Richard did a brilliant job on the soundtrack," Dan affirms.

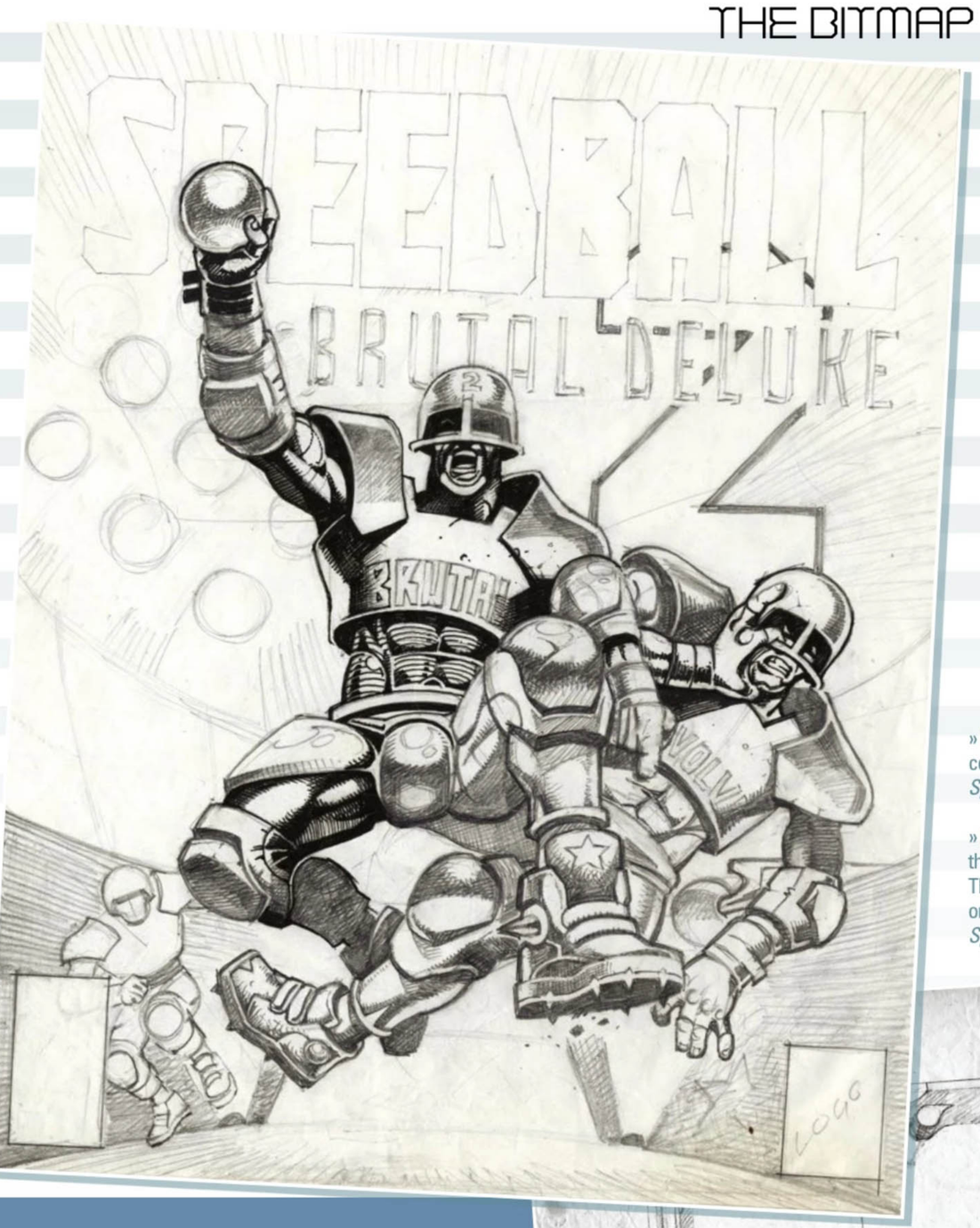
Speedball 2 was a standout game – "pure, no fluff," says Dan – and it received near-perfect reviews. It was released around the same time as *Cadaver*, an isometric fantasy adventure that had players navigate through levels

» *Gods* was awe-inspiring thanks to its superb graphics, an amazing soundtrack and challenging game design.

Joi (THE CHAOS ENGINE)

■ Made up of brothers Farook and Haroon Shamsher, Joi was an alternative dub/dance music duo from Bradford who formed from a desire to promote Bengali culture in East London. At the time *The Chaos Engine* was released in 1993, the pair had released its debut single *Desert Storm* and set up a club night in London. Friends with the Bitmaps, the group composed the game's original title tune.





» Here's Dan Malone's concept artwork for *Speedball 2*'s cover.

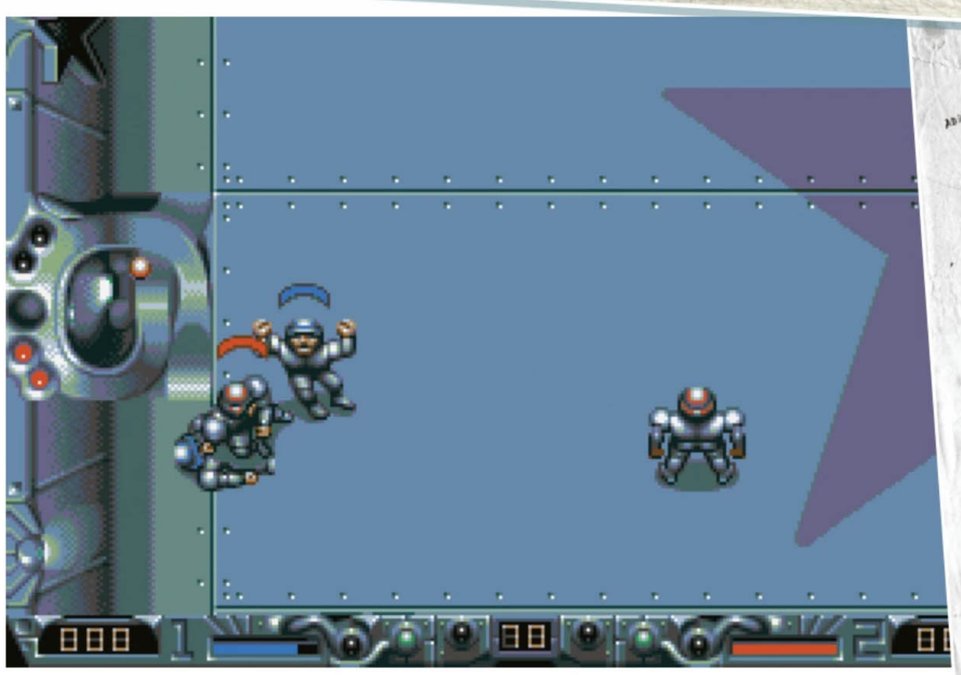
» More great artwork from the brilliant Dan Malone. This time it's focusing on the stadium design of *Speedball 2*

» Rather than have two players co-operating, *The Chaos Engine*'s sequel pitted player versus player.

by collecting and combining objects, solving puzzles and dispatching enemies.

Eric said the Bitmaps were aiming for the complexity of a text adventure but with arcade-style play. It didn't perform as well as other games, however. "What we were aiming for was something like *Dungeon Master* – an adventure game that appeals to arcade players – but because it looks like *Knight Lore* or *Treasure Trap*, that's what people thought it was going to be," Eric explained to *Amiga Power*.

Not that it dented the studio's image. In 1991, the platformer *Gods* was launched and Nation 12 once again provided the game score. Meanwhile, comic book artist Simon Bisley drew the cover while the developers worked on AI that would take into account the player's position and their level of skill.

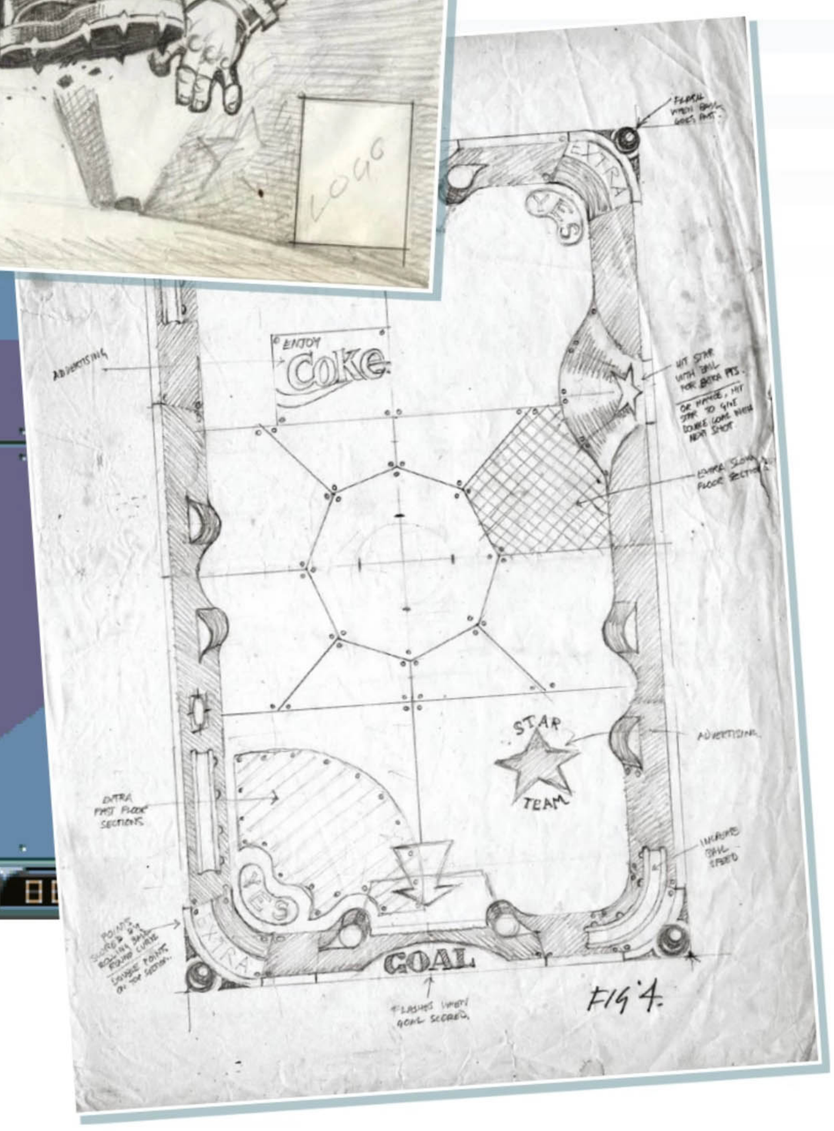


» There were plenty of different strategies to ensure success in *Speedball 2*

Designed by Eric Matthews and Steve Tall, *Gods* was released by Renegade, a new company set up by The Bitmap Brothers in conjunction with Heath and Adele Nozedar of Rhythm King Records and a former employee of Telecomsoft and Mirrorsoft, Tom Watson. It was in-part a reaction to Mirrorsoft's demise, one of the many fall-outs of Robert Maxwell's untimely fatal plunge from his yacht, and in-part a continued desire for better treatment of developers.

Renegade, like the Bitmaps, did things its own cool way: developers got a 50/50 deal which Mike was adamant would work, telling *The One* that it would do for the software industry what Rhythm King had achieved for the record industry. *Magic Pockets*, which included music by Betty Boo, was published by Renegade in 1991, and designed by Sean Griffiths who had been friends with Dan from their days at Palace. "I had started bumping into Eric, Mike and Steve on nights out, and when the Bitmaps needed a new project, Dan said, 'Get Sean in'. One quick interview and they offered me a job," he says.

Sean was a huge fan of *Xenon 2* – "a masterpiece which I played start to finish" – and he soaked up the office vibe. "Eric was quite an enigmatic character. Very designer clothing, chain smoking, smooth talking. Being based in a warehouse, it was a stylish place to work. There was a deliberate culture of being creative and different." ▶



TV Spotlight

How The Bitmap Brothers invaded your Saturday morning viewing

Young television viewers quickly became acquainted with The Bitmap Brothers' work when its debut game, *Xenon*, was picked up by a Saturday morning kids' television show called *Get Fresh*. Produced by Tyne-Tees Television for the ITV network, the programme was presented by Gareth 'Gaz Top' Jones, Charlotte Hindle and a puppet called Gilbert The Alien, and it asked viewers to call in and issue instructions down the line as the game played on their television screens.

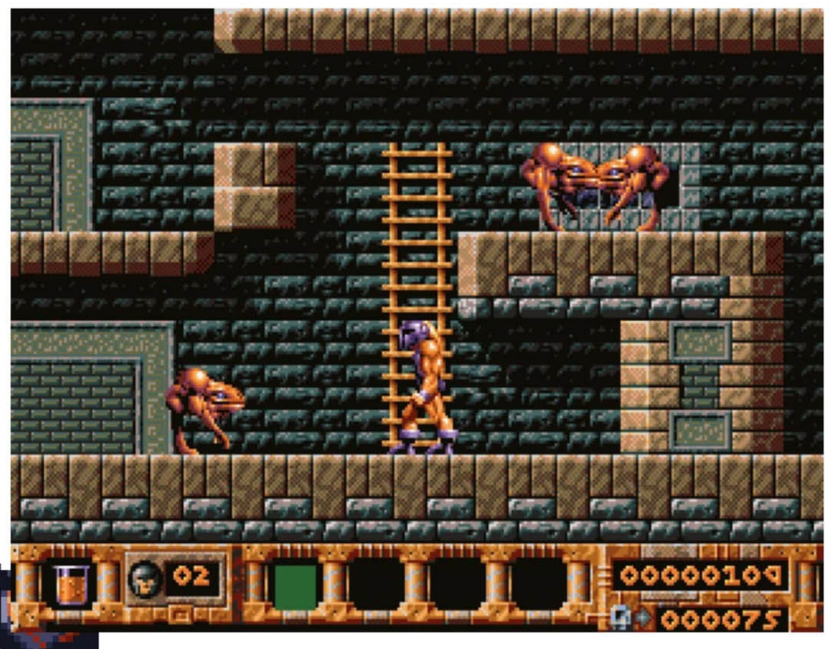
Given the edgy teen vibe that was emphasised *Get Fresh* – particularly in comparison to the BBC's more wholesome *Saturday Superstore* and *Going Live!* – it proved a hugely successful move. *Xenon* became the first Amiga game to enter the all-formats Top 40 and viewers at the time were struck by the defining, standard-setting graphics.

"It was important that our games were top quality otherwise it would otherwise undermine the brand we were trying to build through self-promotion," Mike Montomery says. In 1991, *Magic Pockets* had a similar starring role, this time on *Motormouth*, another Saturday morning television show that ran from 1988 and 1992, initially presented by the likes of Neil Buchanan, Andrea Arnold, Caroline Hanson, Tony Gregory and Julian Ballantyne.

As with *Xenon*, people would call and shout 'walk', 'zap' or 'jump' in order to win prizes. "With Renegade, we had a close relationship with TVS, based in Maidstone, Kent and it was a case of helping other people out – there was no money in it," remembers Mike. "I was interviewed on *Motormouth* live and it was the most frightening thing I have ever done in my life. No one else wanted to do it but I really enjoyed it in the end."

» *Speedball 2100* was a 3D rendition of *Speedball 2* for the PlayStation but it didn't go down very well.

» *Gods* on the Mega Drive was much faster than the computer versions, but it arguably made the game more difficult.



Even so, there was a struggle of sorts. "Mike was always pushing for the deadline and Eric the quality," Sean says. "Eric won the argument generally until it started to become ridiculous with delays of years rather than months and weeks." Like Dan, Sean loved the freedom. "I was an absolute ideas machine and my creativity ran riot," he says.

Soon Renegade was also working with Sensible Software and Bullfrog Productions, two more developers with the Bitmap outlook. "I think the closeness with Sensible added to the allure of The Bitmap Brothers," says Jamie Barber who joined in 1997. "I remember being at E3 having a smoke outside a pub and a journalist couldn't believe he was smoking with 'The Jon', Mike and I – to him it was a really big thing."

It helped that the games were top-drawer. In 1993 *The Chaos Engine* was released, followed by *The Chaos Engine 2* three years later. Working to a design by Eric Matthews and Simon Knight, Dan produced the graphics while Richard Joseph made the earliest use of interactive music, creating a title that was acclaimed. The game benefited from a title theme composed by the British alternative dub/dance music DJ duo Joi.

"Music enhanced the graphics and gameplay and there is nothing more powerful than sound to create mood," says Dan who recalls working with Phil Wilcox on the game. "He didn't stay for the full length of the project but that game fell out of our minds. He came up with this Victorian thing and we just followed our noses."

Socialising remained crucial. Dan and Eric would go to the South Bank and skate together and the sessions in the pubs and nightclub bonded the team. Yet although Dan produced additional artwork for *Z* in 1996, he left soon after, saying he yearned for the same creative freedom he'd had earlier. But this was a hard time for the developer.

Indeed, such was The Bitmap Brothers' troubles, that *PC Zone* was even asking, "Whatever happened to them?" in 2000. The death of the Amiga and the move away from 16-bit games had taken effect although the studio had stuck to its guns and remained independent. "There are a lot of suits around now," Mike told the publication. "A lot of companies are being run by accountants instead of creative people."

Still, The Bitmap Brothers battled on. Ed Bartlett joined in 1999, working as a tester on *Speedball 2100* before becoming a designer on *Z: Steel Soldiers* and coming up with the concept and level design of *Xenon 2000: Project PCF*. He was a big fan of the Bitmaps – "It's no exaggeration to say that they were my heroes growing up," he tells us.

"Working at The Bitmap Brothers felt like being part of a family rather than a business," he says. "Many of the original team and collaborators were still active when I joined but there was a lot of talented new blood arriving, keen to forge ahead and write new chapters." Among

» *Speedball 2*'s popularity ensured that it received a HD update for modern PCs.

» Dan Malone's concept art for the mansion in *The Chaos Engine* looks sinister and foreboding.

> "There was a lot of talented new blood arriving, keen to forge ahead and write new chapters"
> Ed Bartlett

those was Anthony Bowler who became a programmer for the Bitmaps in 2001.

"I recall it being quite old school and the team spirit was definitely there," he says. "The Bitmaps had a fantastic reputation for making incredible games and I was really excited to be involved in whatever their next project would be."

Anthony worked on *Speedball Arena*, a follow-up to the flop 3D title *Speedball 2100*. Ed says he had a vision of reviving *Speedball* as an esport and he struck a deal with Epic that allowed the Bitmaps to make use of the Unreal Engine ("they were desperate for it to break out from being a simple FPS engine," he says). Bowler tells us *Speedball Arena* had got to a playable prototype stage with players, animations, early AI, replays, big TV screens and basic sounds/music but it was canned.

Even so, the magic was still there and anyone who worked for the Bitmaps could sense the cool vibe until it drew its last breath. "I began my career at the Bitmap's offices in Metropolitan Wharf so I really didn't have a frame of reference for what it was like until I was relocated to Eon's Soho office, soon after *Z: Steel Soldiers* was finished," says Jamie Whitworth, who was taken on as a junior level designer in 2001.

"It definitely had a personality of its own that I haven't seen since and you could split the staff into two groups, the first being those that had been developing games since the Eighties and early Nineties, and the next generation of developers who had only been in the industry for a few years."

Jamie worked on *World War II: Frontline Command* which proved to be The Bitmap Brothers' last major release. It had been created in collaboration with Codemasters but it hit an impasse at a fairly late stage so Ed, who was by now business development manager, attended a meeting with the Codemasters' finance director and handed over three scenarios written on scrap paper and told him to choose one.

"Only one showed a positive outcome for both parties which was continuing with development as planned," he says. "Unfortunately, the relationship had broken down to a point where that was not deemed possible regardless of the economics but we were eventually able to negotiate a position where we could finish development and place it with the then-fledgling Deep Silver."

To help make ends meet while it sought a deal for the development of a new title, the Bitmaps also ended up porting three Namco games, *Kill.Switch*, *Dead To Rights* and *Pac-Man World 2*, to PC, a lifeline that had been thrown by Boxall when he worked at Hip.

Eventually, the good days ended but there have been some releases in recent times, including a mobile version of *Z* in 2011, *Speedball 2: Evolution* in 2012 for Android, The *Chaos Engine* in 2013 for PC, Linux and Mac and *Gods Remastered* for the Xbox One in 2018. What's more, Mike is still recognised today just like he was back then.

"Oh it would be ridiculous at times," he says of the past. "We never gave out our address but people tracked us down and came for autographs and all sorts of things. But the thing is, I've done a lot of consultancy and contract programming in recent years and when I go to a new company, I'm amazed at the number of people who say, 'you're from The Bitmap Brothers'. It's the same when I go to a retro show. People are all over you sometimes." We sense he wouldn't have it any other way. ✱

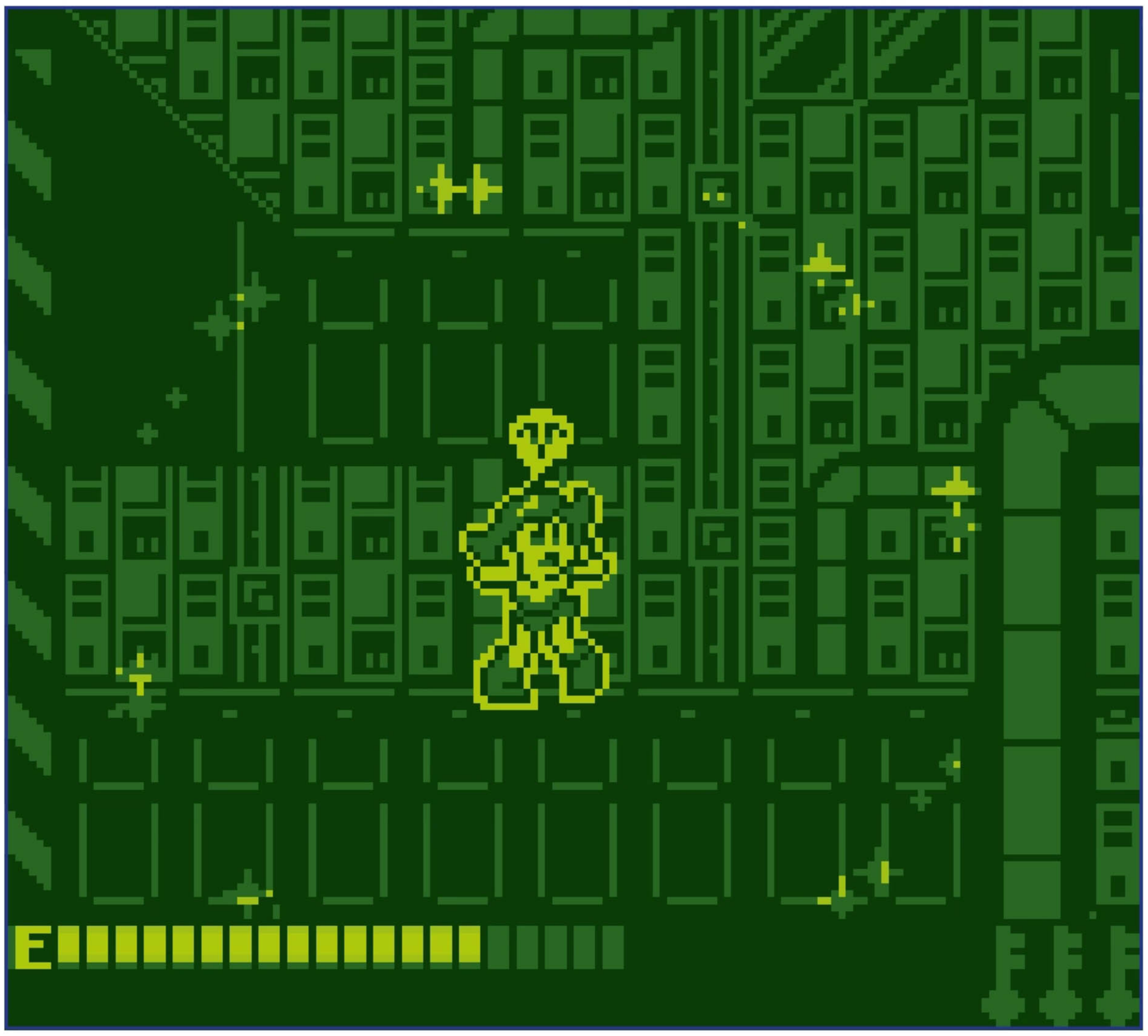
» *World War II: Frontline Command* showed The Bitmap Brothers could turn its hand to real-time strategy.

30 Years Of The

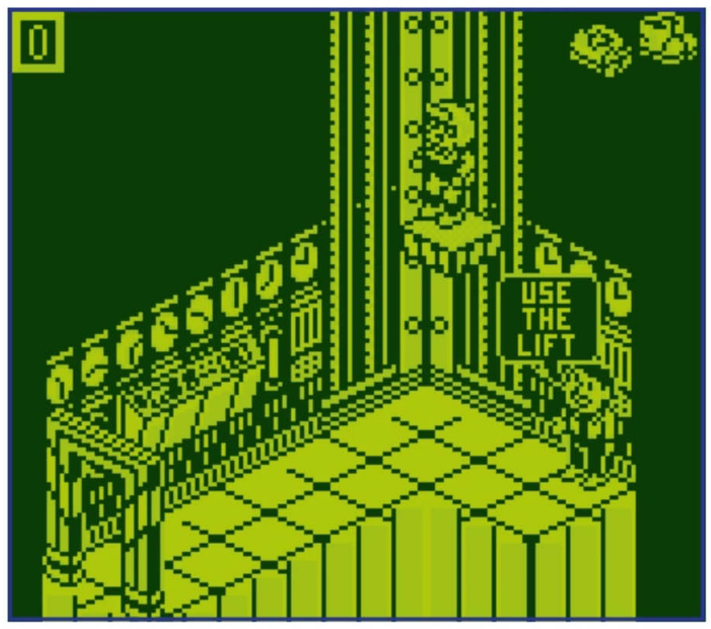
GAME BOY®

THREE DECADES AFTER ITS LAUNCH, THE GAME BOY HAS BECOME MORE THAN A GAMING ICON – IT'S A TRUE CULTURAL PHENOMENON. WE TAKE A LOOK BACK AT HOW NINTENDO'S MACHINE ACHIEVED SUCH A RARE FEAT, AND SPEAK TO THOSE WHO ARE STILL FLYING THE FLAG FOR THE HANDHELD TODAY

Words by Nick Thorpe and Martyn Carroll



» *Avenging Spirit* is one of the great rare games for Game Boy collectors to hunt down.



» The Game Boy's array of licensed games were popular with younger gamers.

When the modern handheld console market developed in the late Eighties and early Nineties, it quickly became clear that one of the manufacturers was significantly more attuned to the challenges of creating a portable platform than the others. The designers of the Atari Lynx focused on pairing the familiar 6502 CPU with relatively high-end custom graphics technology, with Epyx giving the system arcade-style graphical features like sprite scaling. Sega and NEC focused on how they might leverage their existing hardware in a new environment, ultimately basing the Game Gear and PC Engine GT on the Master System and PC Engine respectively. All of these consoles seemed to be born of similar thinking: they were consoles designed in service of the games. They allowed players experiences close to what they'd get elsewhere, and allowed developers to continue using the techniques they had elsewhere. With the Game Boy, Nintendo approached the problem from the other end – the company designed the hardware in service of the gamer.

Nintendo reasoned that the ability to actually *play* the machine was more important than *what* it could play, and that less impressive software was a worthy sacrifice. As a result, more than most pieces of videogame hardware, the Game Boy is a product of compromise. Where other handhelds had colour screens, the Game Boy had four greyscale shades (or green, if you're staring at that original screen). The other machines were backlit, and Nintendo's hardware relied on getting just the right level of light. Nintendo even opted for a custom processor based on the Z80, rather than the 6502 used in the NES, meaning that its developers couldn't simply reuse code. But it didn't matter if it couldn't play *Super Mario Bros* – Nintendo could just make a new *Mario* game tailored to what the machine *could* do.

Not everybody was impressed – it has been said that there was even some deal of scepticism at Nintendo prior to launch. Even those who would later come to be associated with the platform didn't always get a great first impression. "I do remember when a neighbour classmate showed off his Game Boy to me. I'd guess this was summer 1991, since he was playing *Blades Of Steel*," says Johan Kotlinski, author of the Game Boy music tool Little Sound DJ. "Being outdoors in the sun, it was rather difficult to see what was [happening] on the screen, and it did not come off as a particularly compelling entertainment option. As you might remember, there were a lot of competition at the time – most of us kids had a Commodore 64, NES or even an Amiga, and for mobile gaming the Atari Lynx seemed more desirable, even if too expensive. I already had my *Tetris* needs served by an original C64 tape, and the Game Boy did not seem like an improvement at the time. Certainly the load times were much faster on the Game Boy, but we kids had lots of time to waste anyway."

But Nintendo had made a judgement call, and it paid off. "Even though it was underpowered and its screen had issues with ghosting and no lighting, all those things that kind of worked against it also worked in its favour – it made a very economical system," says ▶

BOY WONDERS

GAZ THOMAS,
Developer of
Owyn's Adventure

JEREMY PARISH,
Author of
Game Boy Works

MATHEW BOYLE,
Game Boy
collector

MINI MAKING OF...

PRINCE OF PERSIA

***ED MAGNIN** CONVERTED JORDAN MECHNER'S CLASSIC TO THE GAME BOY*

How did you end up working on the Game Boy and coding *Prince Of Persia*?

My boss woke up one day and decided to swap me from the NES to the Game Boy. It was the best thing he ever did. The Game Boy represented freedom for me. When I'd go to GDC or E3 I could carry my work in my pocket and walk up to a booth and show it to someone, no appointment necessary. I did *Caesars Palace* first, then *Prince Of Persia*.

Were you a fan of Jordan Mechner's original game?

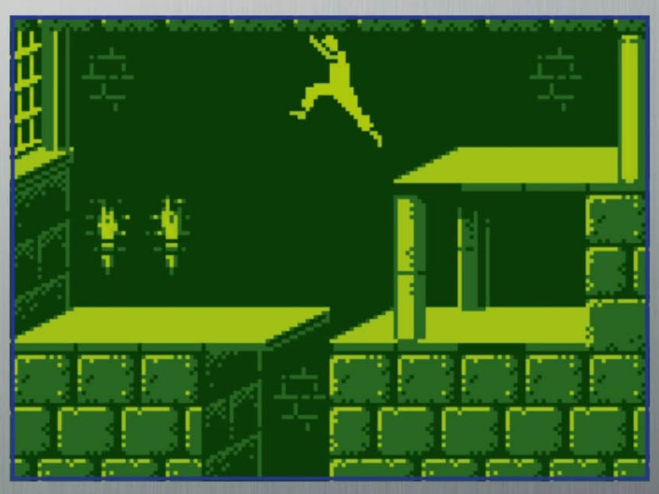
I quickly became one. I played the PC version but knowing he did the original on the Apple II was even more impressive. I played the PC version constantly to make sure ours worked as well or better on the Game Boy.

Did you have any say in the cart size selected for the game, and was it a struggle to make it fit?

Publishers were cheap. They didn't want to pay for a larger cartridge or a battery to back-up RAM in the cartridge. It would have cost a dollar or two, but then multiplied by their mark-up that would have added five or six dollars to the price of the game. If you look back, only Nintendo and maybe one or two publishers ever released games on larger cartridges or with memory backup – the rest of us had to make convoluted password save systems. And yes, it was a struggle to make it fit.

You later did a second version of the game for the Game Boy Color. Did the updated hardware make for an easier conversion?

Not really. In addition to adding colour, Nintendo required developers to add additional levels or features, so we added a training level. At the very end of the project the Nintendo colour police (Club Wario) asked us to make every level a different colour. We had worked hard to make the palace and dungeon levels look really good, so we resisted changing colours. On a conference call I asked Nintendo, 'Do you want it to look good or do you want obvious use of colour?' They answered, 'Obvious use of colour.' That was it. We had to give them what they wanted or they wouldn't let us publish it.

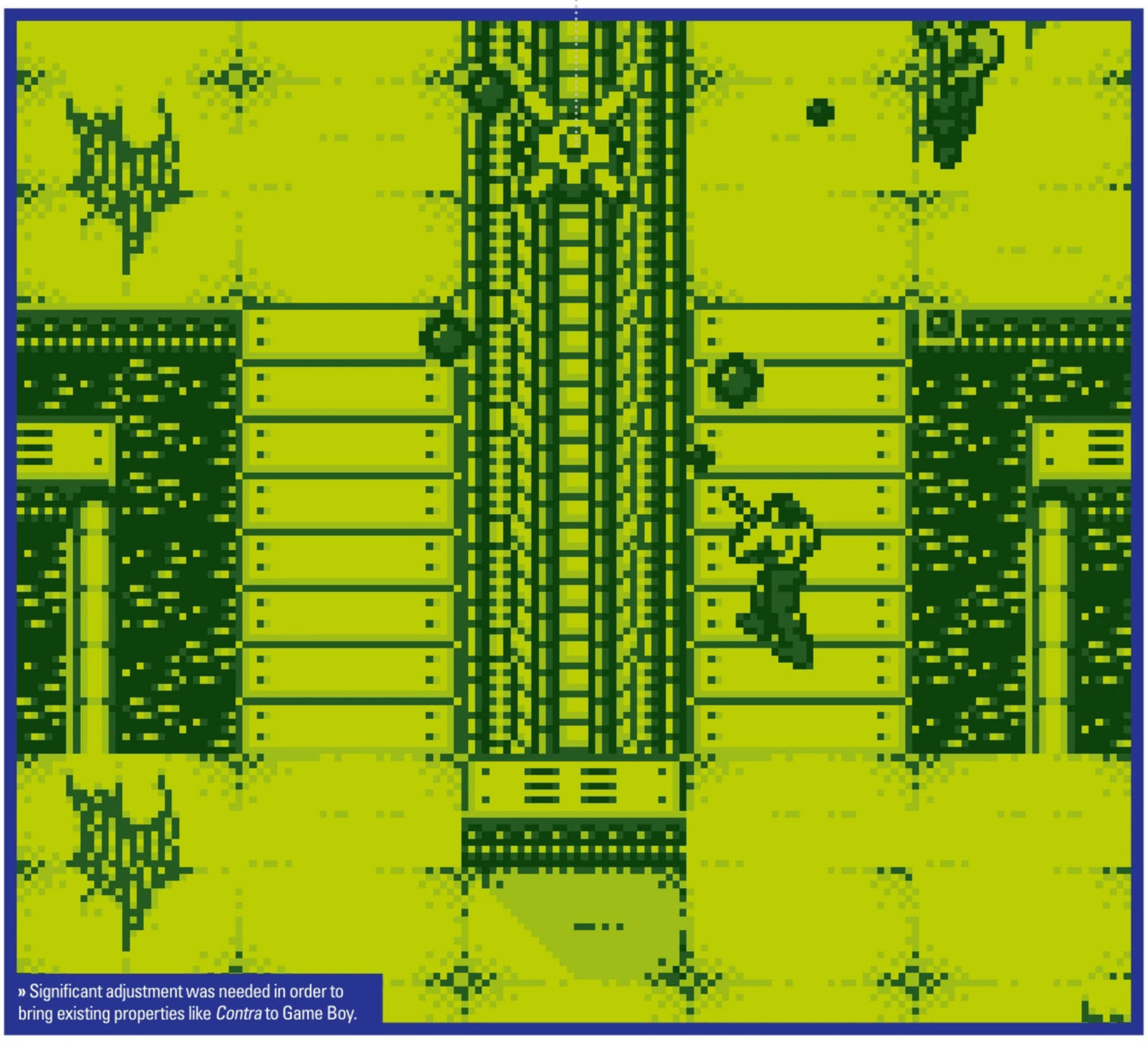


> "It was the first time I had ever seen a console, let alone a handheld, and it was very exotic"
>
> Gaz Thomas

Jeremy Parish, a veteran videogames journalist and creator of the *Game Boy Works* video and book series. The Game Boy was half the price of the more impressive Atari Lynx, and would run three times as long on fewer batteries. This made it attractive to parents, and the built-in display meant that it didn't tie up the TV. It was a viable purchase, even for families that already owned a console. "I first received a Game Boy for Christmas when I was a kid. I'd been trying to play my brother's NES and so I got my own portable system to keep peace in the house," says Mathew Boyle, a Game Boy fanatic whose game collection consists of approximately 800 games. "Of course, I was a bit too young I think to really appreciate it, but I would play *Kirby's Dream Land* until the batteries ran dry!"

As good as games like *Kirby's Dream Land* were, one game overshadowed the rest when it came to selling the system to players – including those with no previous gaming experience. "The first time I laid my eyes on a Game Boy was at my cousin's house, he had gotten one for Christmas. It had *Tetris* on it and he was showing my dad and I," says Gaz Thomas, an indie developer whose work includes *Owyn's Adventure* as well as contributions to *Hydroventure* and *Stealth, Inc*. "It was the first time I had ever seen a console, let alone a handheld, and it was very exotic. I was only five at the time but I could understand the game and the music was entrancing!" Indeed, *Tetris* could be universally understood and its new handheld home proved to be conducive to spreading the game's appeal. Plenty of young players would frequently find their systems being borrowed by parents and grandparents.

Indeed, while Sega and Sony get much of the credit for bringing older audiences into the videogaming market during the Nineties, Nintendo's machine had a killer app that appealed to players across all demographics. "It definitely did reach a broader spectrum of gamers than the NES did, and Nintendo recognised that from the very beginning," notes Jeremy. "Some of their early ads were targeted at working professionals and adults, promoting games like *Tetris* and saying, 'Hey, you can enjoy yourself when you're waiting at the airport – it's not just



» Significant adjustment was needed in order to bring existing properties like *Contra* to Game Boy.

» Puzzle games like *Pipe Dream* worked well with the Game Boy's blur-prone display.

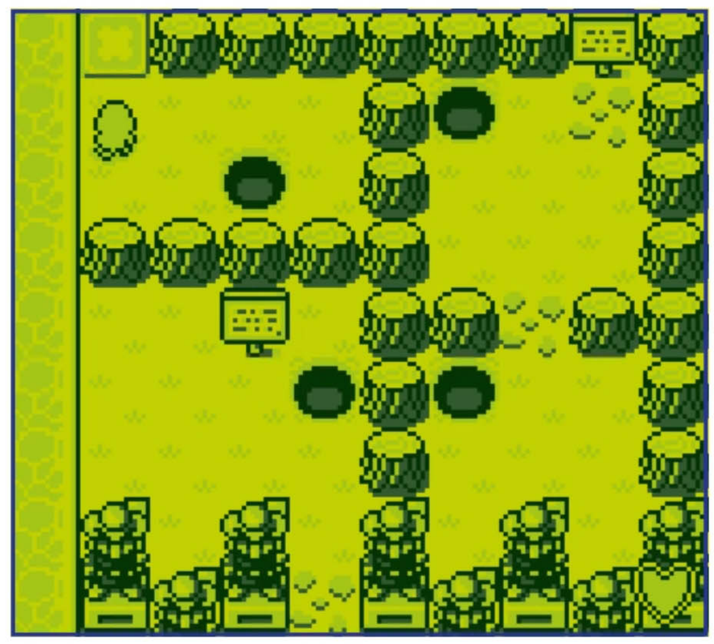
for kids, even though it's called the Game Boy.'" That campaign had the tag line "Have you had your fun today?" and deliberately targeted non-gaming media, appearing in magazines such as *GQ* as well as on TV. Even then-First Lady Hillary Clinton admitted to buying a Game Boy for herself in a 1993 interview with *Time* magazine, after having become a fan through playing her daughter's machine.

The Game Boy had a long tail, too. While the first couple of years played host to more major hits than later years, the hardware saw at least a few games hit the 1 million sales mark every single year. That's pretty remarkable, as Game Boy owners didn't buy a lot of games. Nintendo's figures show that just 4.22 pieces of software were sold for every piece of Game Boy/Game Boy Color hardware – a low number compared to the 8.07 games sold for each NES, or the 7.72 games for each SNES console. It didn't hurt that the system had a late hit in the form of *Pokémon Red & Blue* – the games gave the format a shot in the arm in Japan when introduced in 1996, and plenty of hand-me-down systems were dusted off when they made their way west in 1998 and 1999.

In the financial year ending March 1998, the Game Boy was old hardware (the Game Boy Color still having yet to be introduced) and the world was fixated on home consoles with 3D graphics. But even at what should have been its loweest ebb, the low cost and timeless library of the Game Boy, combined with the absence of any serious competition in the handheld console space, meant that Nintendo managed to sell through 10.37 million hardware units. The Game Boy Color was introduced just months later and revitalised hardware sales – and even though that model saw plenty of exclusive software, major releases including *Pokémon Gold & Silver* and *Dragon Warrior Monsters* still supported the old model. Only when the Game Boy Advance was released in 2001 did the classic system truly ride off into the glorious greyscale sunset.

That level of reach alone gives Game Boy nostalgia a much wider resonance than most other machines can claim. But there's something ▶

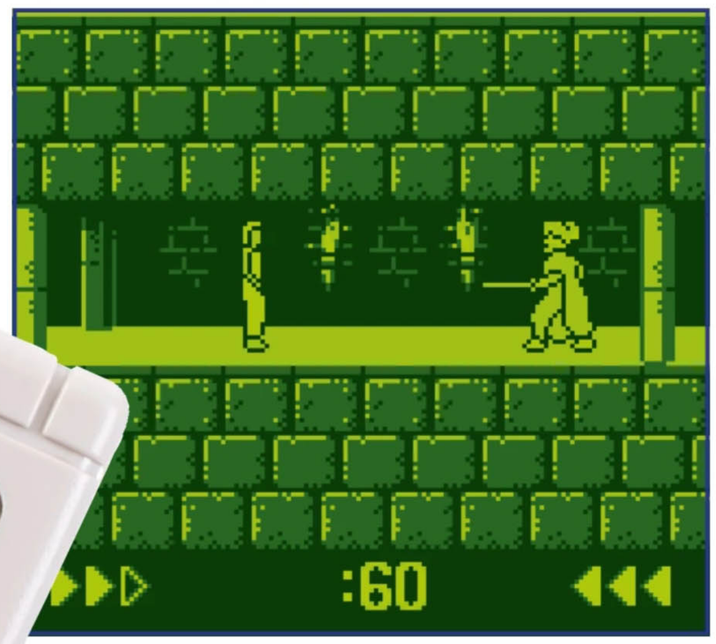
» Bespoke Game Boy projects like *F-1 Race* sold in their millions, despite generic branding.



» Games produced by Shigeru Miyamoto don't tend to fly under the radar, but *Mole Mania* has.

» *Pokémon* kept the system from flagging when most machines would run out of steam.

» *Owyn's Adventure* was born from an organised effort to make Game Boy-style games.



▶ more to it – the hardware choices Nintendo made gave the Game Boy a very distinctive identity, a look and feel that its competitors can't match. Show most people a screenshot of *Lemmings* on the Atari Lynx or the Game Gear, and they'd be hard-pressed to identify the platform. But when you show people a screenshot of the same game running on the Game Boy, there's no hesitation – the four shades (green if you're original, grey otherwise) are a defining characteristic of the platform. And the Game Boy sounds unique amongst Nintendo systems too, not inheriting its sound hardware from the NES or having anything in common with the SNES. Combined with its overwhelming commercial success, these unique distinguishing factors have turned the Game Boy into a true cultural icon, recognisable even to those who weren't around to experience the system's birth 30 years ago.

Take the form factor of the system, for example. When Nintendo chose to reintroduce its *Game & Watch* classics in mini keychain size in the Nineties, it did so in Game Boy-style casing. The machine has also been the basis for all sorts of novelty products, from shampoo bottles to drinking flasks and alarm clocks. Though Nintendo would abandon the vertical orientation beginning with the Game Boy Advance, it was widely imitated by manufacturers of lower-level handhelds in the

» Game Boy games often offer unique takes on existing properties, like *Super Mario Land*'s shooting sections.

> "Both the Game Boy and the Spectrum are Z80, so I already had a head start"
>
> Jas Austin

Nineties, from cheap 'block game' handhelds to the likes of the Mega Duck and the Supervision. Even today, contemporary machines such as the Playdate draw clear inspiration from the Game Boy's classic design.

The limited display of the system has also been a visual inspiration for many, including Gaz, whose game *Owyn's Adventure* uses the Game Boy visual style. What inspired this choice? "I started *Owyn's Adventure* as an entry to the Unofficial Game Boy Jam run by my friend Jamie, who convinced me to take part away from another personal project that I'd gotten a creative block on," explains the developer. If you're a regular reader of our Homebrew section, you'll likely be familiar with such development drives. "It was two weeks to make as much as you could so long as the game featured just four shades of the Game Boy green. After two weeks I had some systems in and a rushed level, so I thought I'd spend a couple of weeks working on the level design but kept going as I was enjoying working on it so much."

The existence of an unofficial jam suggests that there's no shortage of people interested in making Game Boy-style games, and a look around the indie scene bears that out. Browse the online store for the Nintendo Switch and you'll find games like *Save Me, Mr Tako* and *Awesome Pea* that lift their limited colour palettes and green hues directly from the original model of the Game Boy. It's not just on the handheld platform that you'll find this reverence for Nintendo's original machine, either – PC games like *Madcap Castle* and *Squidlit* also pay homage to the system's distinctive display, while others like *Evoland 2* and *PlataGO!* include the Game Boy as one of many retro gaming styles. The look even goes beyond games, as mobile apps like Retrospecs, Bitstagram and Retroboy offer camera filters designed to produce images like the Game Boy Camera add-on. So what makes the look of the machine so popular with indie developers? "A couple reasons as to why the Game Boy aesthetic is popular come to mind," says Gaz. "Firstly the ▶

MINI MAKING OF...

ALIEN 3

JAS AUSTIN REVEALS THE STORY BEHIND HIS UNIQUE INTERPRETATION OF ALIEN 3

You worked on the Spectrum before moving over to the Game Boy. Was it a smooth transition?

Yes, it was pretty smooth. Both the Game Boy and the Spectrum are Z80, so I already had a head start. What was new to me was hardware support – scrolling and sprites for example.

Were you able to watch the *Alien 3* movie prior to starting development?

Sadly no, but the team did get to attend a private screening in a small cinema in Leicester Square shortly before the film was released, which was pretty exciting for me. For the design we only had a copy of the script.

There must have been a temptation to do a typical 2D run-and-gun, like the other versions of the game?

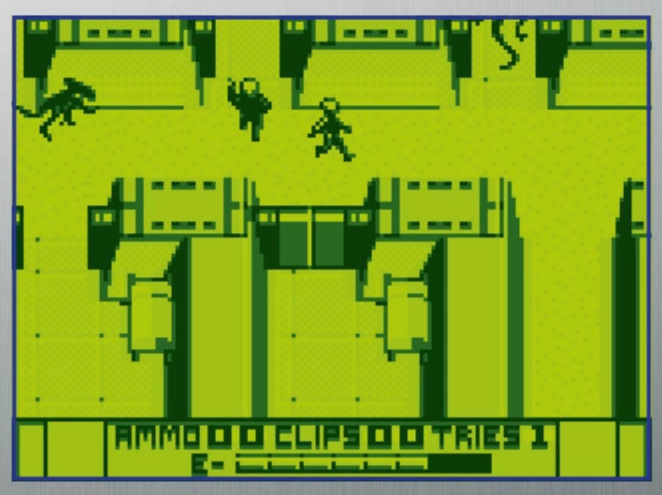
A side-view game was the obvious choice but we purposely avoided doing that. My last few games had all been side-scrollers and I was a bit sick of doing them, so I pushed for the idea of doing something top-down with a little less straight action. Plus at the time I had a feeling the other versions of *Alien 3* would be side-scrolling actions games and thought this would help our game stand out.

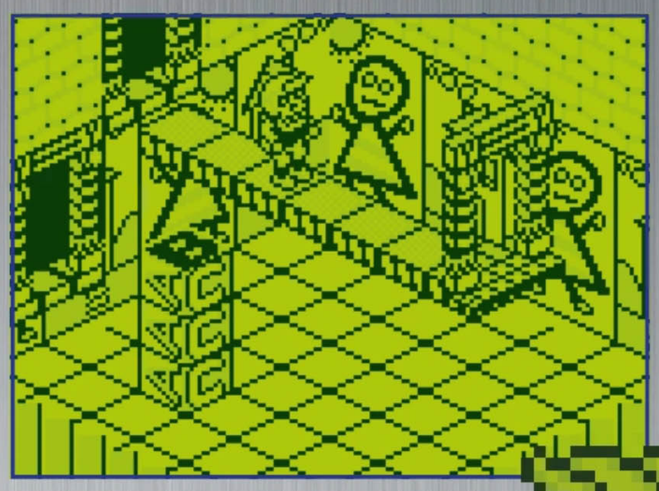
Did you receive any feedback – or interference – from the movie studio?

Fox had no feedback or input into the game design, I'm not sure back then that the film companies saw the games industry as anything important. However any larger graphics of the actors had to be signed off by Fox and the stars.

How long did the development last, and was it a smooth development?

It wasn't the smoothest development. I started on the game and made a very quick prototype to demonstrate the top-down scrolling view. But then I got pulled off the project to work on another game, *Spider-Man 2* if I recall. Sadly my replacement on *Alien 3* had to stop due to health reasons, so after finishing the *Spider-Man* game I jumped back on board. The previous coder's work wasn't something I could use so I went back to my original code. Because the development was now running late the pressure was on to get it finished. It was tough but I managed to finish the coding in about five weeks, which even back then was pretty quick.





MINI MAKING OF...

MONSTER MAX

JON RITMAN ON CREATING HIS MINI ISOMETRIC OPUS FOR THE GAME BOY

Did you find it easy moving on to Game Boy development, due to the Z80-like CPU?

Z80-like? Yeah, if they had castrated a Z80. No exchange registers, no index registers, no 16-bit additions or subtraction instructions. It was doable but also horrible.

Were you asked to create an isometric game in the style of *Head Over Heels*, or was it something you wanted to do?

I had just finished my own development program that Rare used for many games, and at that point I just wanted to use it for something myself. There were no isometric games for the Game Boy during that time, so I thought it would be an interesting challenge.

The monochrome screen was probably the Game Boy's biggest shortcoming. Did you have to mitigate for it during the design?

To be honest, as far as an isometric game was concerned the Spectrum was also monochrome, so no change there. The biggest problem with the screen on the Game Boy was that there wasn't a proper hi-res mode, so I had to mess about a lot to create one using interrupts to change modes as the raster passed over the screen.

The issues you had with the publisher are well known. Do you think the game would have had more impact if its release had been handled better?

If reviews made no difference at the time why would anyone bother to submit a game? *Monster Max* got great reviews when we finished it, but how many would remember it when it was eventually released nearly a year later?

Is it correct that Nintendo was interesting in publishing the game at one point?

Don't remind me that I made the biggest mistake of my career. Yes, Nintendo was interested but we would have had to remodel the main character to be one from the Nintendo stable. I can only plead tiredness for my failure to do so.

Finally, was a Game Boy version of *Match Day* ever considered?

I didn't think it would be possible to make a football game that I would be happy with on the Game Boy. I did think about it, but only for a very short time.

instant nostalgia back to when we were younger – fun, easy-to-learn games. Secondly, for me especially, it lets you worry less when drawing the artwork. It takes a bit to get into the mindset of four colours but once you draw with them for a bit you learn to know when you've done enough." There are limitations, of course. "You can't go overly detailed or things just appear noisy and unreadable, less becomes more as players fill in the gaps."

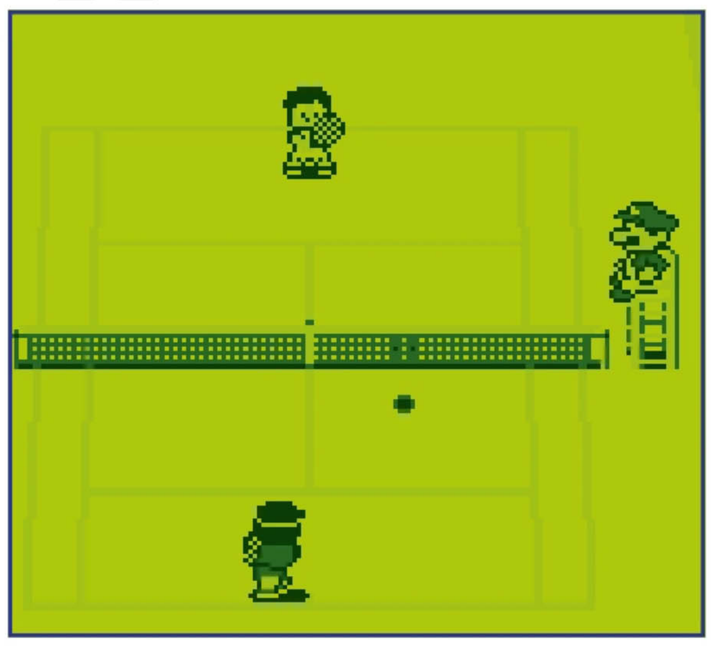
As well as the four shades, many developers choose to employ the green screen – this is in spite of the fact that many players will have experienced Game Boy games on other systems that represent the system's graphics differently, such as the Game Boy Pocket, Super Game Boy and Game Boy Color. Indeed, even this magazine uses the green look for its Game Boy screenshots. Why is this such a crucial part of the look? For Gaz, it comes down to simple nostalgia. "The green is what people who have played on the original console think of when they hear 'Game Boy'. I've seen some great games with four shades but green represents the original console for me." Of course, one of the things that comes with imitating the style is that you can cherry pick the best bits of it, and one thing that tends to be left out is the motion blur that was characteristic of the early Game Boy systems. "I think developers don't chase the motion blur effect as it's not an aesthetic that lends itself to all gameplay types," explains Gaz. "A player who never used the console might even think it was a bug or glitch!"

As you'll likely remember if you were around at the time, the sound of the console was popular too. In 1992, two of the Game Boy's flagship titles inspired singles that reached the top ten in the UK singles charts – *SuperMarioLand ft MC Mario* by Ambassadors Of Funk, and *Tetris* by Doctor Spin (in actuality, musical theatre composer Andrew Lloyd Webber and record producer Nigel Wright). British readers will also likely remember an Ariston advert which featured the title music from the Game Boy conversion of *RoboCop*. Those achievements are pretty astonishing, considering that the console's sound capabilities were very limited even by gaming standards at the time, and speak more to the system's massive popularity than its musical merits.

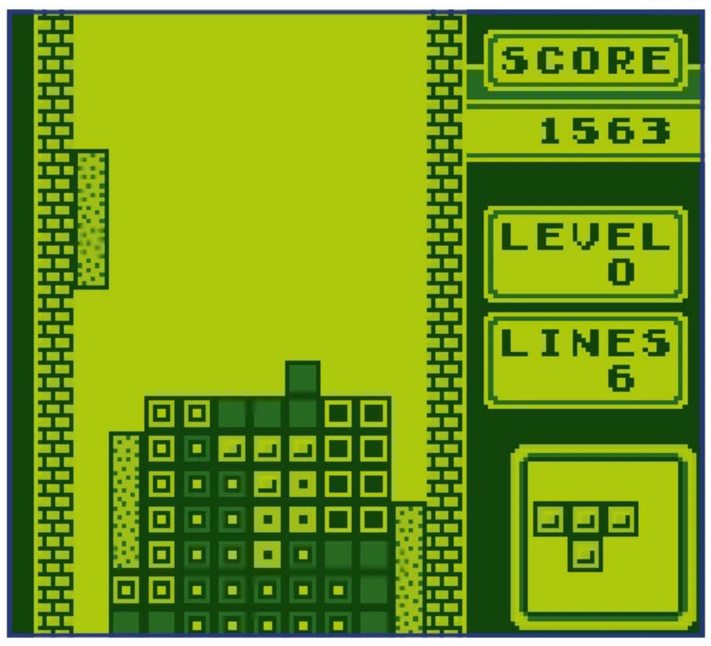
But the Game Boy's sound remains iconic way past the system's commercial heyday. With the rise of flashcarts, anyone can use homebrew programs like Nanoloop and LSDJ (Little Sound DJ) to turn their childhood handheld into a powerful instrument. But why create LSDJ in the first place? "The stars were aligned," says Johan. "I had put my heart into making music on the Amiga for a couple of years and was looking for something new. For a long time I had imagined a portable music-making tool, that would allow me to try out and annotate music ideas on the go." The choice of platform was more coincidental than deliberate. "Some of my friends were starting with Game Boy Color programming, I thought it seemed fun and assembly programming might even be a useful skill when looking for jobs. The Game Boy music programs at the time seemed rather limited and I thought making the best Game Boy music program could be my humble claim to fame – not that I imagined many would ever use it."

Johan's software did become rather popular, as chiptune artists have adopted the Game Boy as a favourite platform. What is it about the system that makes it so attractive? "The Game Boy sound is technically not that extraordinary and is maybe best characterized by its limited 4-bit dynamics. Time has shown though, that it is a rather good music system," he says.

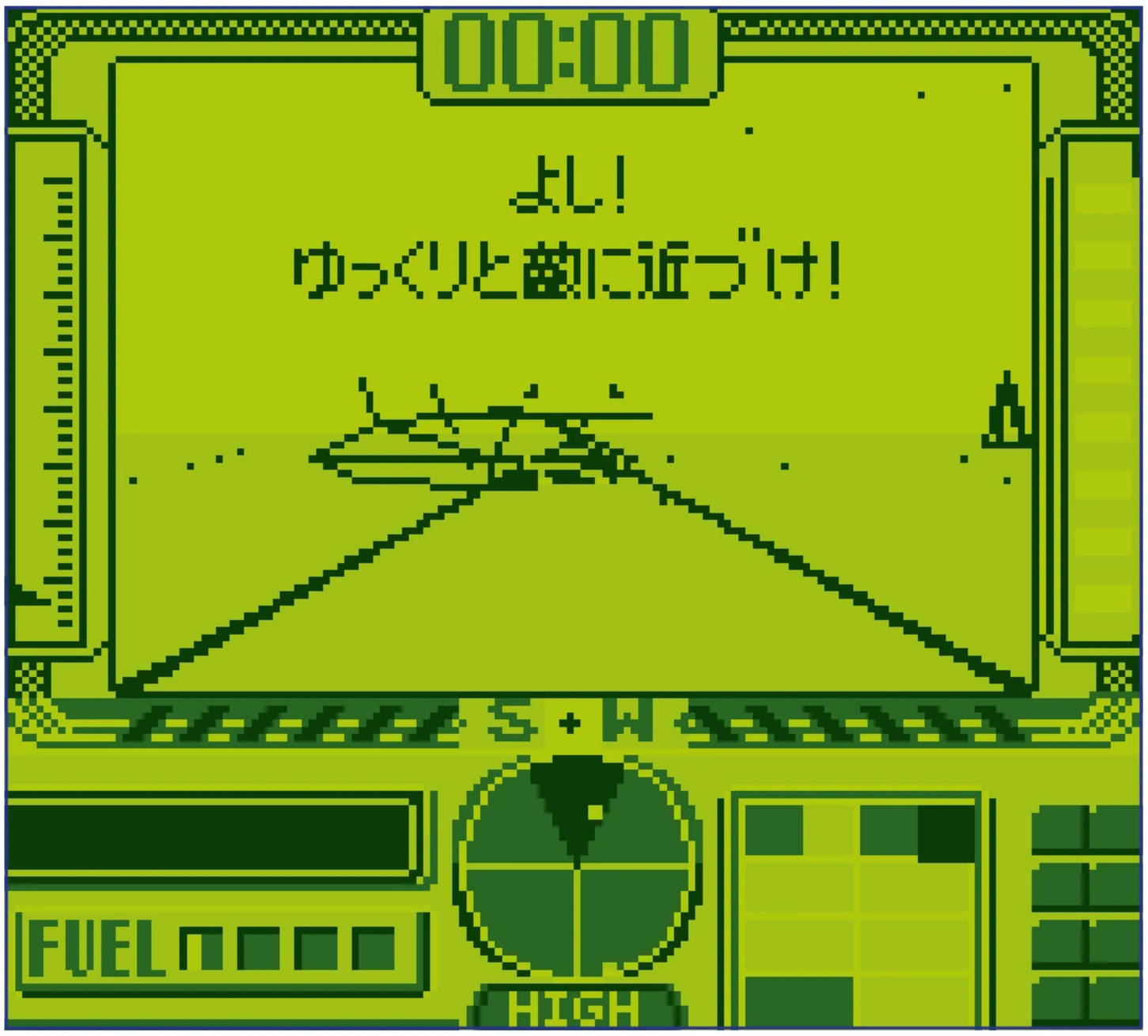
> "The green is what people who have played on the original console think of when they hear 'Game Boy'"
>
> Gaz Thomas



» Mario often turned up to boost the appeal of early games with generic branding, like *Tennis*.

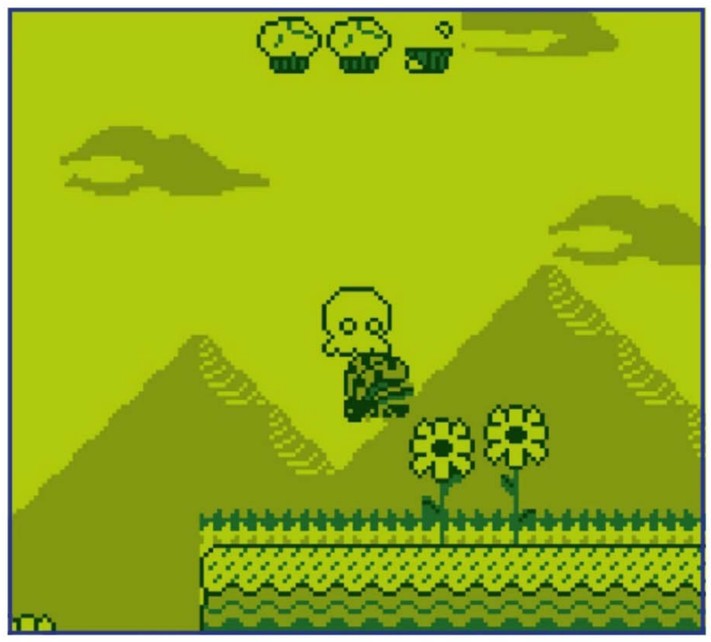


» The music of *Tetris* has inspired a number of musical tributes, including a top ten single.



» Games like *X* proved that the a little programming wizardry could overcome the hardware's limits.

» Chipzel's Game Boy tunes were the soundtrack to indie hit *Super Hexagon*.



» *Squidlit* goes further than other Game Boy-inspired games, sticking to sprite restrictions and other limitations.

» Various indie developers interpret the Game Boy green differently, as seen in *Madcap Castle*.

"The capabilities are well balanced between two square wave channels, a programmable wave table and a noise generator, so it lends itself equally well to many music genres. It is easy to program and the Game Boy has ample RAM, ROM and decent processing power, so it's possible to splurge on things like nice UI, samples, soft synthesis, even going overboard with effects so that one can sculpt the sounds to ones desire. The serial port is a nice bonus, and crucially those square wave basses just happen to sound great in a big sound system."

LSDJ has gone on to become a key tool in the repertoire of many chiptune musicians – those who use it include popular acts such as Anamanaguchi, Toriena, Chipzel, DJ Scotch Egg and Trash80. "I'll mention Covox, Lo-bat and Goto80 since I did a lot of shows with them back in the day," adds Johan when asked about his favourite acts. Like the Game Boy graphical style, the Game Boy sound has even found its way back to games – Anamanaguchi did the *Scott Pilgrim* game soundtrack, Chipzel provided music for *Super Hexagon* and Toriena contributed to the recent *Team Sonic Racing*.

But while the hardware itself has had a considerable impact on our gaming culture, the Game Boy is like every other console in that the primary draw remains the games themselves. And the library manages to attract both old hands and new faces. Jeremy's *Game Boy Works* covers the Game Boy library in chronological order, and cultural significance is a big reason for the choice of platform. "Ever since Game Boy Color and Neo-Geo Pocket Color I've been a big fan of handheld gaming, and during the DS and the PSP's lifespan, I was a big advocate of those in the press. So I felt that maybe I should go back and look at the roots of portable gaming, the first major portable system to come out – and it still has so much heritage in gaming at this point," says Jeremy. But there's another factor that makes the library attractive too, and that's the fact that despite all the nostalgia, it still represents relatively fresh ground to cover. "There's not really that much coverage of Game Boy – even now, outside of the major titles

MINI MAKING OF...

DONKEY KONG LAND III

IAN MANDERS CODED THE THIRD AND FINEST DONKEY KONG LAND

How did you land the job of coding *Donkey Kong Land 3* for Rare?

I started at Rare in 1994 and my first project was the SNES game Ken Griffey Jr's *Winning Run*. After that finished in early 1996, I was assigned to work on *Donkey Kong Land 3*. It used the same engine that Rob Harrison wrote from the ground up for *Donkey Kong Land 2*, but with lots of new gameplay features, as well as new map screens and bonus games.

What were the main challenges you faced from a coding perspective?

It was a new platform, to me, so I had to get up to speed with a different CPU, and the tighter constraints of the Game Boy – slower speed, less memory and the small pages of the Game Boy cartridges. It was an interesting challenge, though, and the immediacy of working with portable platforms resonated with me. For most of my career since that point I've developed software for portable games consoles and mobile phones.

The first two *Donkey Kong Land* games are quite close to their big brother SNES versions, whereas *Donkey Kong Land 3* does deviate from *Donkey Kong Country 3*. Was this a conscious decision?

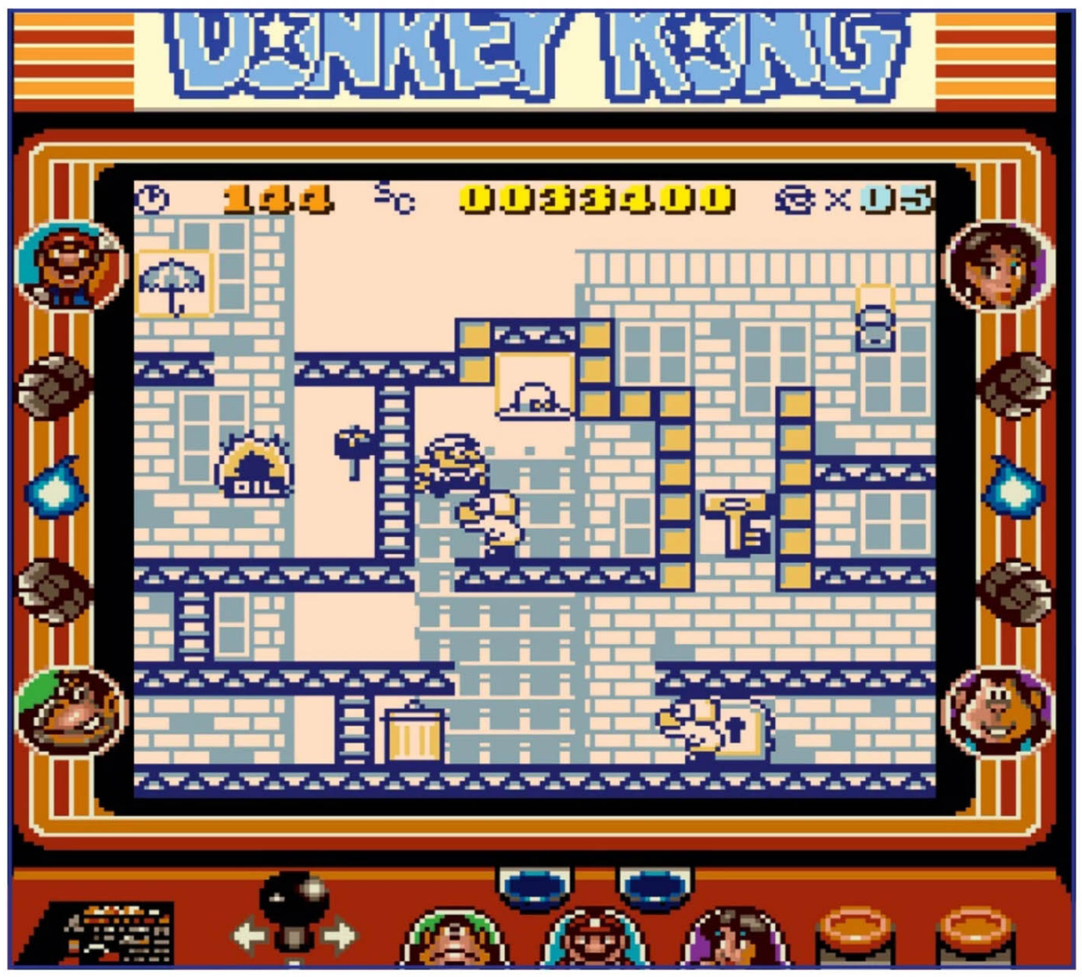
We weren't given any significant directives one way or another and we were generally left to get on with it. Most attention at that time was paid to the Nintendo 64 games in development. We had the benefit of having a good starting point in the existing engine, so that gave us some breathing room to add some original elements.

The original Game Boy's monochrome screen wasn't amazing. Was there much you could do as a coder to improve clarity?

I think that was mostly in the hands of the artist. I don't remember having much influence over that. The artist, Keri Gunn, had lots of experience with creating great Game Boy graphics so it was in capable hands.

The first *Donkey Kong Land* on Game Boy reportedly sold in huge numbers. Were you privy to how well your sequel sold?

I remember hearing that *Donkey Kong Land 3* sold more than a million, which was great to hear for only the second game I'd worked on.



» The Game Boy's display is part of its character, but players always desired colour solutions like the Super Game Boy.

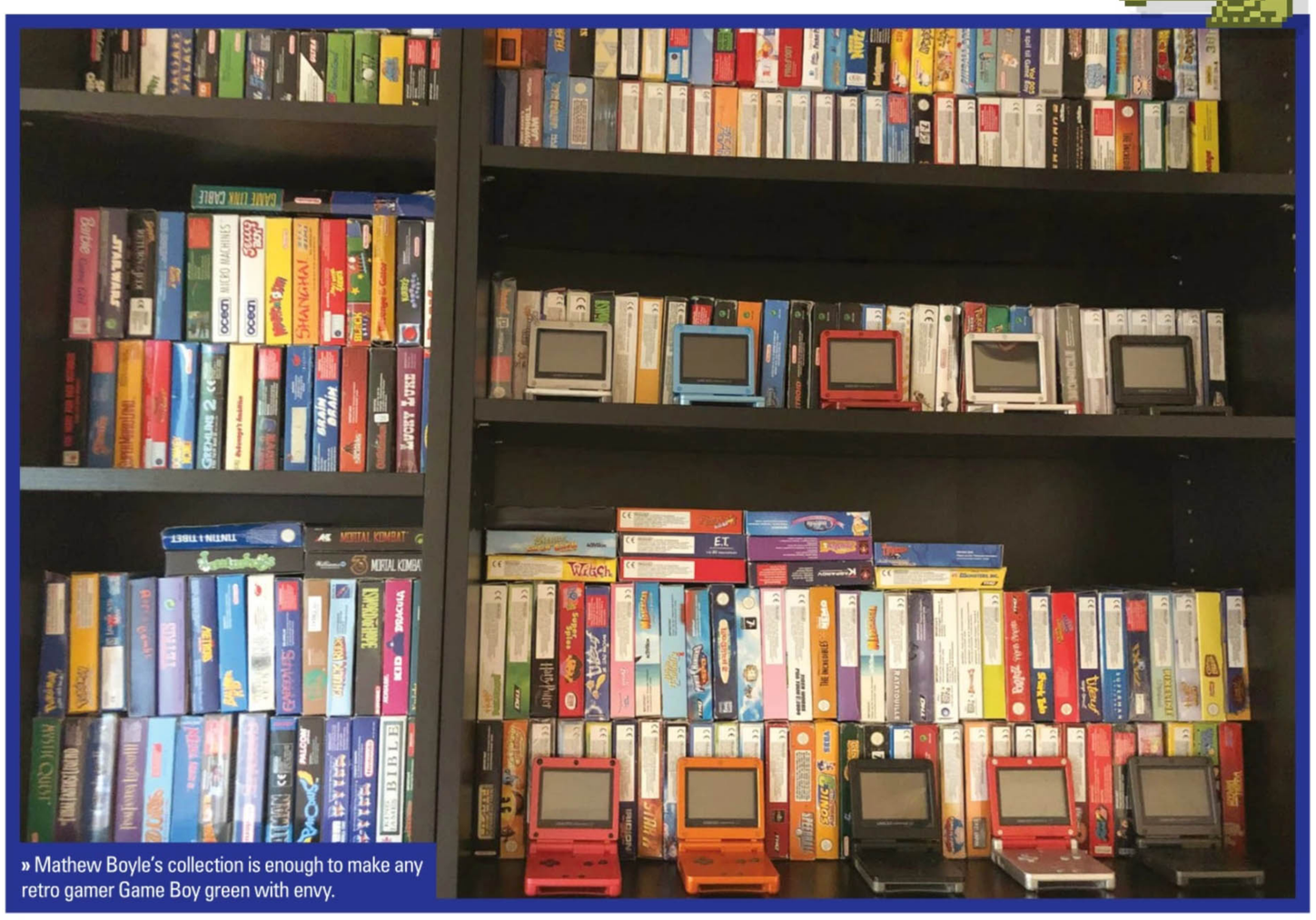
– so it seemed like something interesting to do," he points out. "It's been a journey of discovery, which is what I really wanted to do because I missed out on Game Boy for most of its life. This is the chance for me to go back and experience the things that I didn't get to experience when they were new."

Going back and taking every release in turn has allowed Jeremy to gain insights on the system that he wouldn't necessarily have reached otherwise. "It had a lot of puzzle games, which I didn't really realise at the time," he tells us. "When I would play puzzle action games like *Adventures Of Lolo* or *Toki Tori*, I was like, 'Wow, this is really novel' and now that I've spent a lot of time with the Game Boy library I realise that these were really common and this was a huge genre, especially in Japan on early computers." Indeed, looking at the Japanese library is a gateway into a world of games that originated on the likes of the PC-88 and FM7, and plenty of other games made similar transitions. Since consumers expected simple, easy-to-grasp games on the Game Boy, developers used the console as a means of bringing classic games back to market. Arcade games like *Mr Do!*, *Heiankyo Alien* and *Donkey Kong* were revived on Game Boy, as were computer classics such as *Lode Runner*.

The project has also allowed Jeremy to discover plenty of new favourites. "*Mercenary Force* was a great one, it's kind of like a horizontal shooter but you're controlling a team of mercenaries in feudal Japan. *The Sword Of Hope* was developed by Kemco, and Kemco made its mark on the NES by taking the ICOM *MacVenture* games and converting them, and *The Sword Of Hope* takes that framework and combines it with a *Dragon Quest*-style RPG. It's really interesting and distinct. I also like *Balloon Fight* and it didn't really occur to me until I started this project that *Balloon Kid* was a sequel and follow up to *Balloon Fight*, so I really enjoyed that one." It's fascinating that even for a long-time games journalist with a notable interest in retro games, there's so much unexplored territory. "There have been quite a few games since I've started this project that have been pleasant surprises or genuinely great. I don't think the Game Boy gets its fair due, honestly," he tells us.

One of the long-term devotees of the system is Mathew, who graduated from *Kirby* to *Super Mario Land*, and later to RPGs like *Pokémon* and *Dragon Warrior Monster*. "I've been collecting

» The Game Boy saw a lot of support from Nintendo, with big franchises making waves on the handheld console.



» Mathew Boyle's collection is enough to make any retro gamer Game Boy green with envy.

"The games are very simplistic and there's a purity in that – devs couldn't rely on visuals"

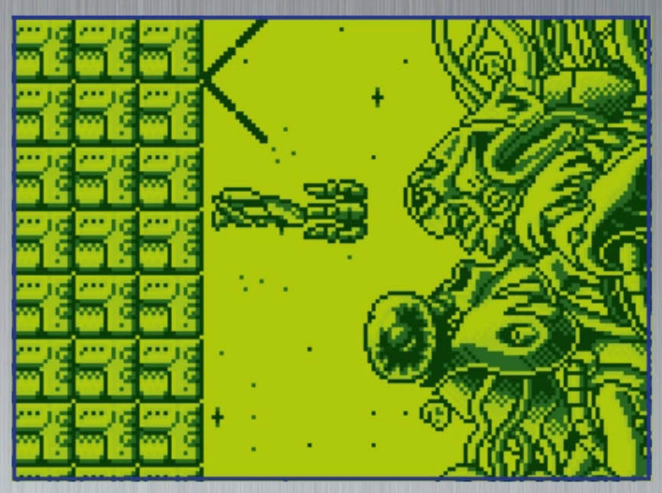
Mathew Boyle

for the Game Boy since I was about 11," says the collector. "I used to go to car boot sales and local retro stores with friends at the weekends. To be honest, it pretty much happened by accident – as I grew up with the system and its successors, I ended up with a pretty solid base of games and discovered new ones via emulation. I started filling in the gaps because honestly it'd stretch the money I'd get from my paper round a little more than buying a SNES game. Unboxed carts were usually only a couple of pounds, so it was worth gambling on games with interesting labels!" Eventually, this casual collecting turned into a more focused effort. "It wasn't until I moved to Denmark that I decided to go for a full set," he explains. "I managed to get the full European set a few years back (467 carts) and then I mopped up the hundred or so US exclusives last year. I think I'm somewhere around 200 of the Japanese exclusives, so I've probably nearing the 800 carts mark if I haven't already!"

So what is it that keeps players coming back to the Game Boy library? "I honestly think it's because the system's limitations made for great gameplay. The games are very simplistic and there's a purity in that – developers couldn't rely on visuals (or even colour), so it makes the experience all about play," Mathew replies. "I guess it also helps that the Game Boy came around at a time when games were in their infancy. Much like the indie games of today, a small team could make an experimental game with relatively little risk involved. I think it's a real testament to those studios, that you can hand an [original Game Boy] and some games to a six-year-old and they'll still have fun playing them!"

The Game Boy was never Nintendo's flagship product, yet there's a case to be made that it had the biggest impact of any of the company's hardware ventures. After all, what became of the adults who got hooked on their kids' copies of *Tetris*? They're the bedrock of today's casual gaming market, and they're probably still playing *Tetris* on their mobile phones. What became of *Pokémon*? It's still one of the biggest entertainment franchises in the world. What became of handheld consoles? They were established as viable alternatives to home devices, and Nintendo has been the driving force in their continued evolution. The company enjoys a similarly commanding position in that market now – even though the Game Boy line has been inactive for over a decade, the Nintendo DS line went on to even greater sales and the Switch is more or less unopposed today.

Because of that impact, we're still in love with the system today. You can see that in the people who still cherish the collections they amassed when growing up, as well as those who are discovering the library today. You see it in the Game Boy kids that have grown up and are now bringing the console's distinct style into their own projects – a style that exists purely because of the choices Nintendo made in service of creating a viable handheld console. If there's a lesson to be learned, it's that the best hardware will turn heads in the moment, but the best hardware for the job will create a lasting legacy. *



» The Game Boy editions of *R-Type* are impressive, and well worth picking up.

MINI MAKING OF...

R-TYPE DX

***BOB PAPE** RECALLS THE BUMPER R-TYPE PACKAGE THAT DELIGHTED ALL GAME BOY OWNERS*

Did having the ZX Spectrum version of *R-Type* on your CV help you get the Game Boy *R-Type II* gig?

Well the original *R-Type* for the Game Boy was converted by Jas Austin but he was busy on another game, while I was free and had the experience of coding the Spectrum version. I don't know if it had been offered to anyone else but for my self-confidence I'd like to think my name was somewhere near the top of the list!

The pair of you later updated your R-Type games for *R-Type DX* on the Game Boy Color. What was the impetus there?

It was a quick money-spinner. The *DX* versions replaced the mono sprites and backgrounds with colour versions and I also added a brand-new backdrop to the third stage of *R-Type II*. We found out that it was very easy to convert an existing four-colour Game Boy game to a full(ish) colour one, so much so that perhaps the console should have been called the Game Boy Color-ised.

Besides the colour versions, *R-Type DX* also included the original mono games that could be enjoyed on both Game Boy and Game Boy Color. How did that work?

I had to add a piece of code to the mono Game Boy versions that checked if it was running on a Game Boy Color. If it was then it set the first four colours of the Game Boy Color palette to an approximation of the Game Boy, with a slight yellow tinge. Disregarding the differences in colour the Game Boy Color versions are pretty much identical to the originals. Nintendo did ask for some minor tweaks such as asking for the level one boss to be made harder to kill.

***R-Type DX* includes a cryptic messages on the end credits: 'For Arch Stanton, The World Is Yours?' Was this down to you?**

Yes, that's another of my little messages at the end. Arch Stanton plays a key part in the finale of *The Good, The Bad And The Ugly*, while 'The World Is Yours' is the motif that drives the protagonists of both versions of *Scarface*.

» A picture of the AP office… but, you know, there are so many more things we could talk about in this article. Remember Canoe Squad?

» Or Sinister Theme Park? Not to mention The Four Cyclists of the Apocalypse.

alien-bashin' platform-rompin' puppy-lovin' game-reviewin' AMIGA POWER truth-tellin' disk-swappin' street-fightin' horizontally-scrollin' joystick-wagglin' best-sellin'

THE MAKING OF AMIGA POWER

In the beginning, there was Amiga Power. And lo, these mighty beings did DISSEMINATE ESSENTIAL INFORMATION. Here, they reveal the TRUTH of what happened behind the scenes at the much-loved, and much-missed, magazine

Words by Lewis Packwood

» Cam was the Cyclist at the back, by the way. He says he's still got the sledgehammer. [Are you actually going to write proper captions? – Ed]

» FINE. Here's a normal caption: A sketch by Jamie Hewlett of the character that was set to appear on every *AP* front cover. HAPPY?

» They nicked some backdrop cloth from the photo studio to make the cloaks.

My biggest disappointment," begins Matt Bielby, *Amiga Power*'s first editor, "was that we had a very different cover design at the start." Later *Amiga Power* staffers would gently mock the initial incarnation of the magazine, with its clean white look and word-spattered covers, referring to it as the 'Matt Bielby Golden Age'. But Matt reveals that he never wanted those dull cover designs.

Originally, he had called in Jamie Hewlett, the artist behind Tank Girl and Gorillaz, to draw the covers for every issue of *Amiga Power*. "He developed a character for us," says Matt. "She was a bit like Tank Girl but had green hair, and she had kind of blobby floating alien sidekicks [you can see a sketch at the top of this page]. And Jamie was going to draw them for every cover in the outfits of whatever the lead game was. So if it was *Sensible Soccer* they'd be in football outfits, and if it was a car racing game they'd be in racing outfits, and so on." The suits soon put a stop to all that, though.

> **"There was a section at the front where we said there's no point buying any other magazine"**
> Cam Winstanley

"Greg Ingham [*Amiga Power*'s publisher] hated it," continues Matt. "He saw it at the last minute and thought it was wrong for the magazine. And so we suddenly had to come up with another way of doing the covers, which is why we had these sort of *Q* magazine-influenced text and pictures." Generally, however, Matt recalls that the management was hands-off in its treatment of *Amiga Power*.

Jamie's green-haired character and her alien sidekicks resurfaced later in 1991, the year of *Amiga Power*'s launch, when they graced the covers of several EPs and an album by the British punk band Senseless Things. And Matt eventually did get to have his comic book-style magazine covers. He later became launch editor for another fondly remembered magazine, *Super Play*, and commissioned Wil Overton to draw anime-style art for every single front page.

SPREAD THEIR SEED

Despite his questionable taste in covers, Greg did at least contribute one of the lasting aspects of the magazine. "He said it should have a subtitle: 'A Magazine With Attitude'," remembers Matt. "I think he decided that was a good thing to kind of distinguish it from the more serious and slightly straight-faced magazines that Future Publishing had at the time. It helped define the magazine, but a lot of what we did over the next few years was working out what 'A Magazine With Attitude' meant." One of the things it meant, as it turned out, was subverting the subtitle 'A Magazine With Attitude', which variously appeared on the cover of later issues as 'Ein Magazin Mit Stellung' and 'The Magazine With No Future'. Whether by chance or design, *Amiga Power* became a roiling cauldron of wit and anarchy, a magazine that steadfastly refused to conform to the norms of Nineties games publishing.

And it had a devoted following. There was no better illustration of this than the letters ➤

Where are they now?

The staff's life, after Amiga Power

MATT BIELBY

■ After birthing *Amiga Power*, Matt says he'd "become one of the go-to guys to launch anything that was games-y", and Future offered him the chance to helm either a Mega Drive or a Super NES magazine. He picked the latter, launching *Super Play* in 1992. He went on to launch *PC Gamer*, *.net*, *SFX*, *Total Film*, *Arcade* and the *Official PlayStation 2 Magazine* before eventually leaving Future. Currently, he says he's "desperately trying to write some novels – they're not finished yet, but they're getting there" while running a food mag called *Crumbs*.

STUART CAMPBELL

■ Stuart left *AP* to work for Sensible Software during the production of *Cannon Fodder 2*, *Sensible World Of Soccer* and *Sensible Golf*. After that he did "all kinds of things in journalism and games development". He now edits the "world's biggest Scottish politics website, Wings Over Scotland, which advocates Scottish independence and gets around a quarter of a million readers every month from a country of 5 million people. Coincidentally that's around the same number as total sales of the Amiga 500, so I guess proportionally Wings is about five times as popular as *AP* was. All those other losers were clearly just holding me back".

JONATHAN DAVIES

■ After *AP*, Jonathan moved to *PC Gamer*, and later helped to launch *N64 Magazine*. He did a couple of years at the BBC on the *Top Gear* website, before launching Gamespress.com. Both Jonathan and Cam married an *Amiga Power* art assistant called Lisa. "But not the same one, if that makes sense," he says. "It was quite a while after *AP* that I got together with my Lisa (Nicholls). We stayed friends post-*AP*, and she used to water my plants when I was working down in London, and she did such a good job of it that it only seemed right to pop the question. We're now sharing a house with a couple of mini-mighty beings beneath an attic full of obsolete computers."

AMIGA POWER 1991 - 1996

Where are they now?

...and here's the rest of them

RICH PELLEY

■ After Rich left Future Publishing he vowed never to play a videogame again (although he says he "DID PLAY *MARIO KART* ON THE WII AGAINST MY NEPHEW ONCE, AND HE BEAT ME"). He decided to become a men's magazine journalist. After writing for magazines like *FHM* and *Loaded*, Rich finally decided it was "ALL A BIT EMBARRASSING" and started working for *The Guardian* instead.

CAM WINSTANLEY

■ *Amiga Power* was the first (and only) games magazine that Cam worked on. In 2003, he married former *AP* art assistant Lisa Kellett after bumping into her at a party. Cam says that "like most freelance writers, I now sit in my spare room cranking out copy for B2B journals and internally-distributed magazines for European IT consultancy firms while writing screenplays in my spare time". His first (and only) novel, *B-spine*, is "languishing at 2,312 in the 'Cyberpunk sci-fi' category of the Amazon Kindle store".

» Remember that time when Rich drove a car into the sea?

» Or The AP Files, a 14-page feature on the paranormal that had exactly nothing to do with Amiga games?

» *Office Joust* was the best. That was when they worked out they could use a camcorder and a screen-grabbing machine to take their own photos without booking a photographer. [This is your final warning. – Ed]

» ISSUE 0 WAS A 32-PAGE SAMPLER INCLUDED IN *AMIGA FORMAT*

» A SOFTWARE COMPANY EXECUTIVE APPEARS ON THE FRONT COVER. AP2 NOTES THAT "THE RESPONSIBLE PARTIES WERE TAKEN OUT AND QUIETLY MACHINE-GUNNED"

THE MATT BIELBY GOLDEN AGE

1991 **1992**

ISSUES 0-8 ISSUES 9-20

➤ page, 'Do The Write Thing', in which regular correspondents became minor celebrities in their own right, and where in jokes were born and subsequently spread their seed through the entire magazine. Who can forget the saga of Bob The Hamster, for example, a gender-tripping epic that culminated in the line 'BYE-BYE BOB. YOU WERE A GIRL HAMSTER' being printed along the spine of issue 55 of *Amiga Power*?

One of the regular letter writers was C-MONSTER, the pseudonym of one Kieron Gillen, who later went on to write *The Wicked + The Divine* and the Marvel *Darth Vader* comics, among many others. "*Amiga Power*'s letter page was a wonder," he recalled in 2014. "People writing in recurring characters to proper full on rants to people who you loved to hate." And the loss of *Amiga Power* still stings. "We will never see its like again. At its best, it was as good as anything."

PUT A STAR NEXT TO IT

When asked what set *Amiga Power* apart from other gaming magazines at the time, *Amiga Power* writer Stuart Campbell responds with a single word: "TRUTH". The writers insisted on using the full percentage scale when scoring games, awarding average games a score around the 50% mark. This caused upset. "If a game is bad, you say it, you say their game is bad," recalls Cam Winstanley, long-time *Amiga Power* staffer and editor from issue 51 to 55. "And then the advertisers threaten to pull their advertising, and then you go 'pull your advertising', and then they pull their advertising, and then we wrote about how they pulled their advertising."

Indeed, *Amiga Power* went on a mission to call out what was rotten in the state of review mark. "There was a section at the front where we said there's no point buying any other magazine, here are the scores that the other magazines have given," says Cam. "We actually did a little grid every month, and we actually put a star next to it that said: 'appears as an exclusive, cover disk or a cover'. And it would be like '70%, 70%, 70%, 99%', and there would be a little star next to it.

"For all of this stuff about Gamergate that came up recently, you know, ethics in the games industry, I just found that hilarious, because going back, game reviews were just bought and sold. Absolutely without doubt, flat out, bought and sold. Not with money that I know of, but certainly with massive perks and freebies and nice trips. And because we didn't do that, we just didn't get any of that. So we kind of lost out on a lot of cool trips and T-shirts by actually writing reviews."

CULMINATING IN A CRACKING

Amiga Power's commitment to vigorous scoring resulted in a long-running feud with Team17, apparently caused by the developer taking issue with *Amiga Power* giving its games 'low' scores. "It was all a bit strange, and rather a shame," recalls Jonathan Davies, who was the magazine's editor from issue 37 to 50. "Team17 were one of the Amiga's greatest games publishers, but even they produced the occasional stinker, which *Amiga Power* wasn't afraid to call them out on. Plus, of course, *Amiga Power* scored games properly, rather than giving them 98% just because the PR guy was a mate or whatever."

Cam notes that *Amiga Power* actually scored Team17 games fairly highly: "We once added up all the scores, and we worked out they had an average of 76% or something [Subsequent fact checking reveals it was 73%, coincidentally the 'number of the beast' – Ed], which is actually pretty good for

» RAINBOW ISLANDS COMES NUMBER ONE IN THE *AP* TOP 100

» THE BUDGET REVIEW OF *RAINBOW ISLANDS* GIVES IT 96%, THE JOINT HIGHEST *AP* REVIEW SCORE ALONG WITH *SENSIBLE WORLD OF SOCCER* 95-96

» *SENSIBLE SOCCER* COMES NUMBER ONE IN THE *AP* TOP 100

» STUART CAMPBELL GIVES *INTERNATIONAL RUGBY CHALLENGE* A SCORE OF 2%

» THE FIRST 'WHATEVER HAPPENED TO…?' FEATURE LOOKS AT *CYBERPUNK*

» THE *CANNON FODDER* POPPY COVER IS PULLED AFTER PRESSURE FROM THE BRITISH LEGION

» *GRAVITY POWER* IS GIVEN AWAY ON THE COVER DISK

» *SENSIBLE SOCCER* RETAINS ITS PLACE AT NUMBER ONE IN THE AP TOP 100

» AN ADVERT FOR F-MAX, THE LIGHTLY SPARKLING FISH DRINK, RUNS ON THE BACK COVER FOR SEVERAL ISSUES

» *SENSIBLE WORLD OF SOCCER* HITS NUMBER ONE IN THE AP TOP 100

» THE ENTIRE *AP* STAFF IS KILLED UNDER MYSTERIOUS CIRCUMSTANCES

THE MARK RAMSHAW ERA
THE LINDA BARKER ERA
THE STUART CAMPBELL ERA
THE JONATHAN DAVIES ERA
THE CAM WINSTANLEY ERA
THE COLLECTIVE ERA
THE TIM NORRIS ERA
THE STEVE FARAGHER ERA

1993 | 1994 | 1995 | 1996

ISSUES 21-32 | ISSUES 33-44 | ISSUES 45-56 | ISSUES 57-65

The Amiga Power timeline

The glorious eras of gaming's most rock'n'roll magazine

a magazine that rated an average game at 50%." But the falling out seemed to be sparked by *Amiga Power*'s review of *Alien Breed 2*. "We loved *Alien Breed* because it was a really tight game," says Cam, "and then *Alien Breed 2* wasn't, and got a bit of a kicking. In the first game, all of the maps looked like sets, they looked like places: there were corridors… whereas *Alien Breed 2* just had these nonsense mazes that were just entirely arbitrary. Everything about it was just stupid. It was bigger, but it just wasn't as good."

Cam says that things escalated from there: "There was this conviction that it was personal." Team17 eventually stopped all contact with *Amiga Power* and started including the names of *Amiga Power* staffers as dim-witted computer opponents. Still, Jonathan notes that for a while "it seemed like we'd patched things up, culminating in a cracking *Super Stardust* cover".

Unfortunately, the peace didn't last. "Then there was a succession of unfortunate happenings," Cam says. "For example, they accidentally sent us a buggy version of *Arcade Pool* to review, and we accordingly gave it a thumbs down in *Amiga Power*, which was a shame because when they sent the real version shortly afterwards it was excellent and fixed all our complaints. Then, we were seemingly alone in the world in finding *Worms* a bit tedious. (What were we supposed to do? Pretend we liked it?) It was all downhill from there on, really."

> **"We once added up all the scores, and we worked out they had an average of 76% or something"**
> Cam Winstanley

HARRY DEAN STANTON

Scoring controversy aside, *Amiga Power* is probably best remembered for its humour. Every inch of the magazine was crammed with absurdisms, from cryptic messages etched down the spine to running gags in the 'Next Month' section on the back cover. Memorably, the same picture of *Hired Guns* featured in this section for months on end as the review copy repeatedly failed to arrive. Then after it eventually did arrive, the picture still remained, with the editors claiming it was stuck and no one knew how to get it off. Even the 'flannel panel', the list of contributors to the magazine, was ripe for gentle sedition, with job titles doctored and names cheekily edited. In issue 50, for example, Jonathan Nash's job title was given as 'Harry Dean Stanton'.

Cam says one of *Amiga Power*'s big influences was *Viz*, which "everyone was reading in the office at the time". The other was a book by Mark Leyner called *Et Tu, Babe*. "It's the funniest book I've ever read, and I strongly recommend it," says Cam. "And if you're familiar with *Amiga Power* and you read it, you'd go, 'Ahh, okay now I see.' It came out in 1992, and we kind of stole a lot of the stuff from it: it's a book about megalomania, and it purports to be written by a megalomaniac, and he talks about his megalomaniac lifestyle. And it's ridiculous. A lot of the style choices that we made were because we were reading that at the time. And because it's a bit obscure, no one else got that we'd kind of stolen it. So there you go, big secret there."

But much of *AP*'s humour originated from the fact that, in Cam's words, "A lot of the time you just got to piss about." He mentions aspects of the job could've been better, "but it didn't matter

» In The Style Of… was great, too.

» And the letters page! Llars Erik Johnsrod, Isabelle Rees, Reader Millington…

➤ because you were playing videogames for a living". And that sense of a group of people simply having the time of their lives while being very silly spilled over into the magazine, says Cam. "You piss about, you write about it, and then people find that funny and they send in letters and photos, and then you write about that. And you've got this silly little club going."

IDIOT PARKOUR GANG

Stuart recalls that there was brilliant chemistry between all of the *Amiga Power* writers. "I hit it off with Mark Ramshaw [*Amiga Power*'s second editor] very early, and the company in general had a really strong culture at the time. But *Amiga Power* had a little office to itself, and I think that fostered a team spirit that was a little tighter than most and felt special. Obviously there were ups and downs and tensions like you'd get on any team – at one point, for example, Mark and I had a fall-out that saw him trying to break down the front door of the house we both lived in, while I waited in the hallway with a massive kitchen knife to stab him if he succeeded – but they were short-lived."

And Stuart emphasises that each member of the team really cared about the magazine that they were making. "The best illustration, I think, is how we used to react when a new issue came back from the printers," he remembers. "As soon as we got the call from the post room we would literally race through the building like some sort of idiot parkour gang to get to them first – if you've ever played the chaotic four-player Amiga game *Base Jumpers* it was kinda like that – then bring them back and spend an hour sitting reading the finished magazine to each other and laughing at our own jokes like total wankers. We absolutely loved what we were doing and were ludicrously proud of what we'd made, and that's an intoxicating feeling."

Jonathan Davies has similar fond memories of the *Amiga Power* years. Among them, "Jonathan Nash's never-ending supply of satsumas, the *Gravity Force 2* duels, the Friday afternoon cinema trips (shh), Cam's scratch-built *Frontier 2* cover model, getting to enjoy all of the best Amiga

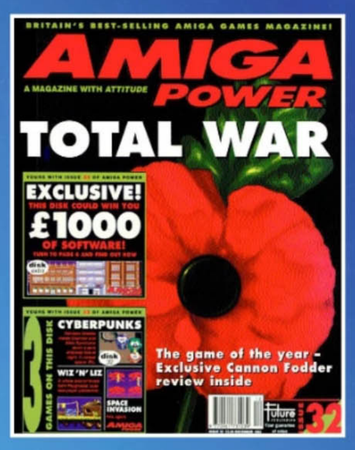
Essential issues

Editions of Amiga Power worth racing through the office for

ISSUE 21

SENSIBLE SOCCER WITH HILARIOUS CONSEQUENCES

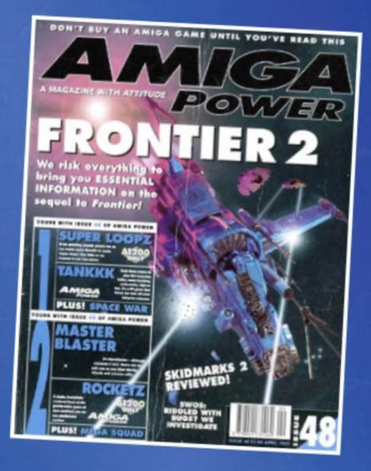
■ *Amiga Power* cover disks often featured bespoke games, like *Sensible Soccer Meets Bulldog Blighty* in issue 21. "The ball would explode randomly, [it] was just a unique game because it only existed on that cover disk," says Cam. *Gravity Power* was another exclusive: "We paid them a few hundred quid and we said, 'Do us a version where it looks exactly the same, but we want these major changes: we want the gravity halved, and we want the inertia changed to this, and we want the shields changed to this.' We played it all the time."



ISSUE 32

CANNON FODDER CONTROVERSY

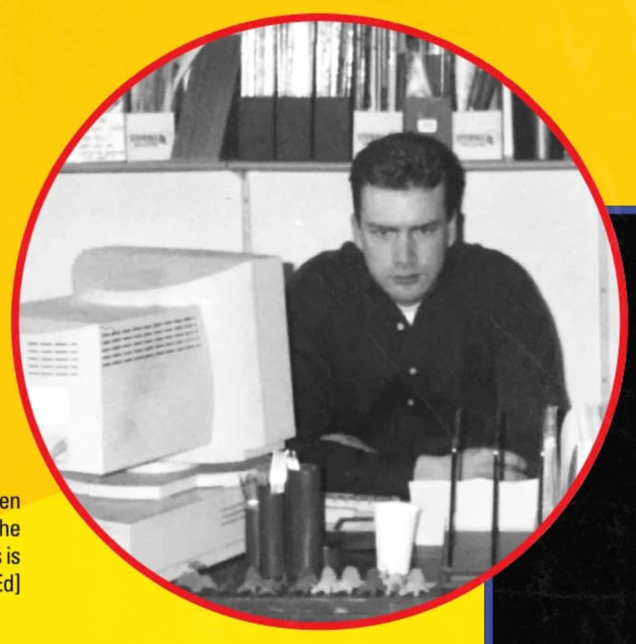
■ The *Cannon Fodder* poppy cover was changed after *The Daily Star* saw it in an *Amiga Power* advert and ran a scathing article entitled '*Poppy Insult To Our War Dead*', while The British Legion threatened legal action. Stuart pointed out online in AP2 that the "knee-jerk reaction" was at odds with the game itself: "The facts here are that *Cannon Fodder* was [...] probably the most sensitive addressing of the issue of war ever seen. [...] It's in fact, ironically, the only game I can ever recall to treat its protagonists as anything other than cannon fodder."



ISSUE 48

THE HANDMADE COVER

■ The cover of issue 48 was a masterstroke of last-minute bodging, according to Cam: "We were locked into doing a *Frontier 2* cover on the understanding that there would be some artwork or some sort of preproduction things. But we got closer and closer to the issue, and we realised that it simply wasn't going to happen. So I stayed up three nights and bought, like, five model kits and some balsa wood and made a spaceship. And then we photographed it, then someone created a star field for it and put the laser beams in and stuff. [...] It was just some shit model that I'd made."



» Hey, what about that time when they did The Secret Garden in the style of Reservoir Dogs? [This is your final, FINAL warning! – Ed]

games, of course – like *Sensible Soccer* and *Guardian* – the good pals I made while working on it, the endless cups of tea… and generally just escaping with my life."

CHIPS AND GRAVY

Above all, though, *Amiga Power* was brilliantly written. As Matt says, "The magazine became a magnet for the kind of more inventive writers in the industry." This talent manifested in what the team called 'concept reviews', where they'd review a game in the style of a *Choose Your Own Adventure* story or a film script, to name two examples. Partly, says Cam, the concept reviews were an attempt to stave off boredom: "If you're writing six or seven game reviews per issue, you just kind of go, 'Urr, I just want to do something else now.'"

It wasn't all chips and gravy, though. Rich Pelley recalls that he was relegated to writing the tips page "BECAUSE NO ONE ELSE WANTED TO DO IT. AND I SECRETLY HATED IT". He was still at school when he began writing for *Amiga Power*. "I USED TO HAVE TO BUNK OFF SCHOOL ON A MONDAY MORNING AND GET TO BATH TO DELIVER MY COPY ON A FLOPPY DISK, AND THEN GET BACK TO SCHOOL BEFORE ANYONE NOTICED THAT I WAS GONE."

Rich did occasionally work in the office though, which is the origin of why he was always quoted in upper case. "THEY THOUGHT I SHOUTED ON THE PHONE. SO THAT'S WHY EVERY TIME I SAID ANYTHING IN THE MAGAZINE IT WAS IN CAPITAL LETTERS. OTHER PEOPLE THROUGHOUT MY CAREER HAVE SAID THE SAME THING."

» And F-Max, the lightly sparkling fish drink! [Right, you're fired! – Ed]

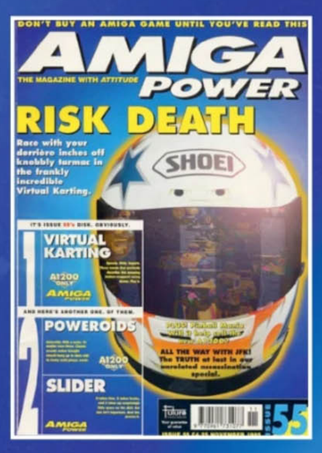
Along with the tips page, says Cam, the reader adverts were the other part of the magazine that the *Amiga Power* staff hated to work on – and The Secret Garden was actually an elaborate plot to try to get the page dropped by the management. "They had this thing where if you didn't spend your budget, they'd cut it. So the reason for doing The Secret Garden was that it was the single most expensive way we could do reader ads, because every three or four months we'd have to do an elaborately staged photoshoot. That's why it got out of control, because we were always trying to hire costumes just to spend the budget so that they'd complain about it, and they'd say we'd never have to do the reader ads page any more. But it never worked, and we just ended up doing silly photoshoots." The Secret Garden became ever more elaborate as the issues rolled by, to the point where Cam once stayed up all night making dinosaur models for a prehistoric diorama.

Ultimately, though, as the Amiga games inevitably dried up, the silliness had to end. *Amiga Power* went out with a triumphant, yet poignant, final issue – and when it was done, the staffers held a Viking funeral, setting a copy of the magazine alight and sailing it off down the River Avon. Then they went to the pub. All except Rich, that is. "I HAD TO GO HOME EARLY BECAUSE MY MUM WOULDN'T LET ME STAY OUT." AP

"We absolutely loved what we were doing and were ludicrously proud of what we'd made"
Stuart Campbell

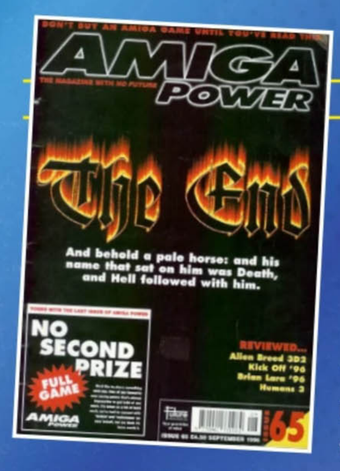
ISSUE 52
DOOM, BUT IN REAL LIFE

■ Cam has fond memories of running around Future's corridors with BB guns for issue 52 of *Amiga Power*: "*Doom* in real life was totally my idea, and it was the most ripped-off feature I have ever seen," he remembers. "We were really put out, because every other games magazine also did it, but we were just going, 'Well we did it first.' Bath is absolutely covered with subterranean passages, so we did this amazing photoshoot in these passages under the Georgian buildings, where we had someone dressed up with BB guns. We also did the photoshoot with the guy with the enormous minigun."



ISSUE 55
THE JFK SPECIAL

■ By issue 55, the features were getting sillier and sillier. "You just reached a point where there weren't any games coming out," says Cam. "So then what happened was that all of the crazy things that had just been smaller aspects of the magazine suddenly became quite big, because you just had quite a lot of pages to fill. We did a thing about the Kennedy assassination, because conspiracy theories were big at the time, and we were just like, 'We've got ten or 12 pages, and we've got no content, let's just do something about the Kennedy assassination.' And so we did it as *Amiga Power* as we could."



ISSUE 65
THE END

■ Stuart on the final issue: "Well, closure was pretty inevitable at that point – there weren't any Amiga games any more. But it was an enormous privilege, granted to very few magazines, to get enough warning of it to do a proper goodbye issue, and I think the last *AP* is a very fitting tribute and a pretty great microcosm of everything the mag had been over the previous five-and-a-half years, all tied up in a brilliant underlying narrative. Steve [Faragher] and Sue [Huntley] did a terrific job of holding *AP*'s hand on the Green Mile, and the final page with the team and the Four Cyclists is so perfect it brings a wee tear to my eye even now."

THE EVOLUTION OF

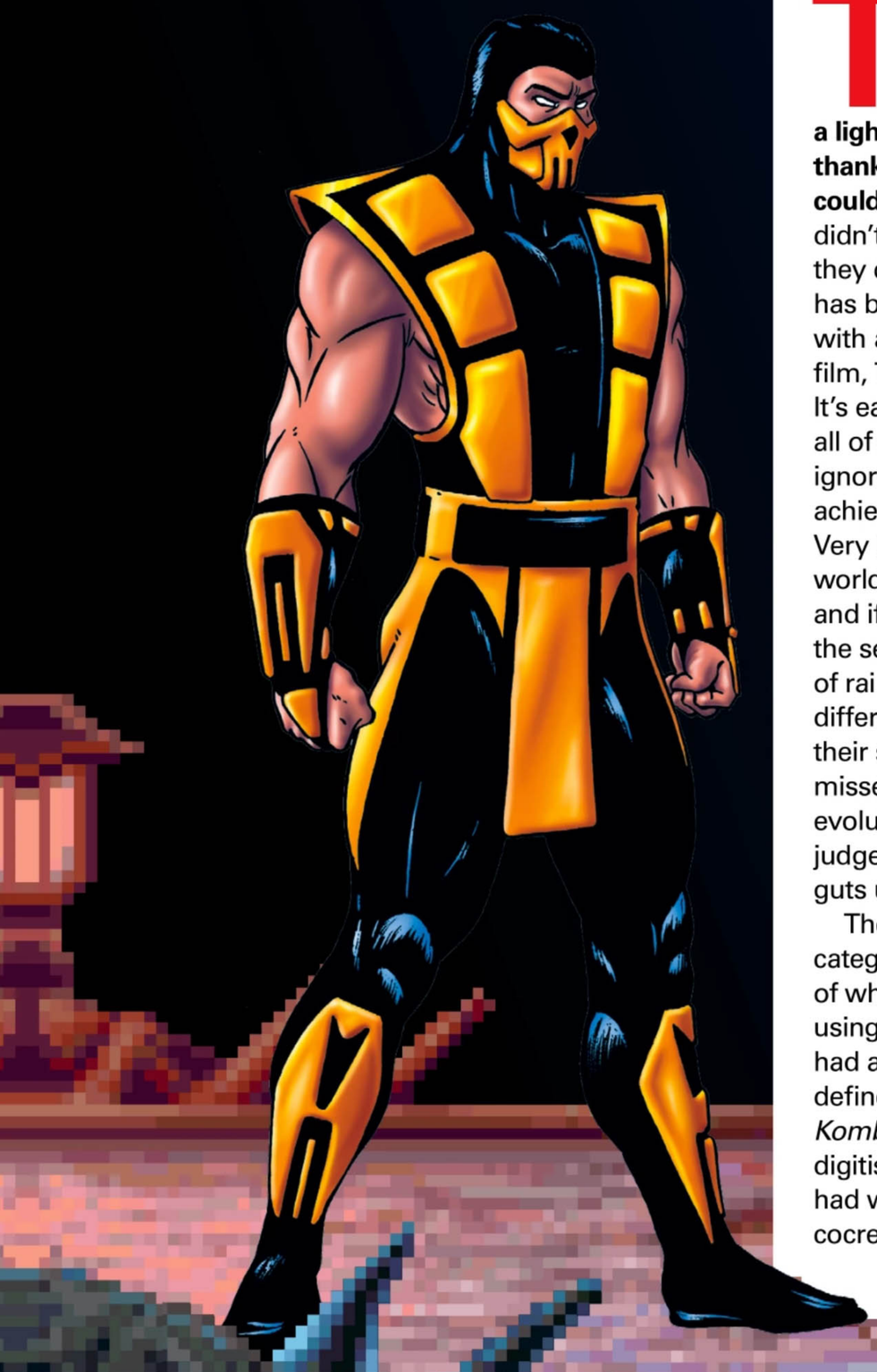
MORTAL KOMBAT

There are few gaming joys greater than decapitating your humbled foe, but there's much more to this classic series than that. Ed Boon explains why Mortal Kombat has been a lethal competitor in the fighting game scene for over 25 years

Words by Nick Thorpe

» Shang Tsung was demoted from boss to regular fighter, and proved extraordinarily difficult to master.

» Scenes like this gave *Mortal Kombat* a dangerous edge.



There are very few games in history that could be described as having achieved true notoriety, but *Mortal Kombat* is definitely one of them – after all, it was a lightning rod for controversy in its earlier years, thanks to being the fighting game where you could kill people. Concerned moral guardians didn't want kids anywhere near the series, but they could hardly avoid it because *Mortal Kombat* has been a genuine cultural phenomenon, with a multitude of games as well as film, TV and comic adaptations. It's easy to get caught up in all of that, but to do so is to ignore why the series has achieved such longevity. Very little is constant in the world of *Mortal Kombat*, and if your impression of the series is still a vision of rainbow-hued ninjas differentiated only by their special moves, you've missed a couple of decades of evolution. For a series so often judged by its grizzled exterior, it's the guts underneath that are truly fascinating.

The *Mortal Kombat* series can be broadly categorised into a few different eras, the first of which was naturally the 2D era. Despite using 2D sprites like every other fighting game had at the time, *Mortal Kombat* was in part defined by its look. "The idea for the first *Mortal Kombat* came by combining a (relatively new) digitisation technology that Midway Games had with a fighting game," explains Ed Boon, cocreator of *Mortal Kombat* and creative director at NetherRealm Studios. This technology allowed the developers to use filmed images of real objects to create sprites, rather than drawing them from scratch. The fighting game part of the pitch was based on the trends of the time. "*Street Fighter II* was very big in 1991, and we originally wanted to make a Jean-Claude Van Damme fighting game because he was also very popular at the time. When he passed on our idea, we decided to make a fighting game using characters we would create." The setting that was created centred on a fighting tournament, in which the warriors of Earthrealm (our world, essentially) fought to save it from the sorcerer Shang Tsung. Through the sequels, we'd learn more of the story – Shang Tsung was attempting to take over Earthrealm on orders from Shao Kahn, the supreme ruler of supernatural realm called Outworld.

Midway wasn't the first studio to attempt to combine digitisation technology with the fighting genre, as fans of Atari Games' *Pit-Fighter* will tell you. But that game had come before *Street Fighter II*, and as well as kickstarting a boom in popularity for the fighting genre, Capcom's game provided a key point of comparison for *Mortal Kombat*. "*Street Fighter* had an anime art style and we wanted our game to look different and stand out more. *Mortal Kombat's* visuals played a critical role in making the game stand apart from *Street Fighter*, as well as other arcade games. *Mortal Kombat* looked ▶

HERE'S JOHNNY!

Daniel Pesina portrayed Johnny Cage and the ninja characters in Mortal Kombat and Mortal Kombat II – we speak to him about his experience with the series

© Daniel Pesina

» Daniel is front and centre in the cast picture, with the Cage knuckleduster.

How did you become involved with *Mortal Kombat*?

In short, I became involved in *Mortal Kombat* through a friendship planted in a group of friends. A friend of mine, who later went on to help draw the first *Mortal Kombat* comic and did the artwork for Nintendo's home version of *Mortal Kombat*, put together a creative group – a group of friends who loved the arts and are geeks! We would go to movies together, collect comics, play *Dungeons & Dragons*, draw, mix records, break dance, go to the arcade, etc. One of the group was John Tobias.

Years later he gave me a call and asked if I could help him on a fighting game. He wanted to videotape myself, Rich DiVizio and my brother Carlos Pesina displaying martial arts moves and play fighting together. He had some basic drawings of some characters and would present them to the company he worked for, Midway Games. I agreed. We went to Midway Games on the hush. John wanted no one to know about this project until his presentation. We filmed some things and he presented them. The company was interested and wanted to see more and hear about our ideas so a meeting was made.

During that meeting the group spoke about Kung Fu movies we like including *Enter The Dragon*, *Big Trouble In Little China*, *5 Deadly Venoms* as well as comics such as *Iron Fist* and *Shang Chi Master Of Kung Fu*.

As we were leaving I heard John ask the rep what he thought and the rep shook his head and made a sour face. Later on John called me and said that they liked the idea of a fighting game, but not our fighting game – basically, 'No.' A new idea came up focusing on a mainstream fighting game with Jean-Claude Van Damme.

Did you have much knowledge of fighting games beforehand?

I do not play fighting games that often. The fighting is not attractive to me, there are certain elements that I think are missing.

Did you have to do any sort of research for your role of Johnny Cage?

Most of the creation was done while filming and was a collaboration or competition to come up with a better idea. For example, John based the Johnny Cage character on Daniel Rand for Iron Fist. He told me to act like a movie star. I came out waving to the camera and blowing kisses. John liked it and said to do more, so I came out with the sunglasses, blew kisses, flexed my biceps and threw the glasses.

This was the basic creative engine for the first three characters. Cage, Kano, Raiden. We started taking outside the group ideas after that. People working on the game started getting the vision!

How much input did you have into the game's moves?

As far as moves go, day one of creation John and I spent about eight hours filming while I performed martial arts moves, creating a path for the game. Day two, eight hours again but we learned a few things, and we started to organise high, medium and low techniques. On the third day we started adding things like knees, headbutts and sweeps along with reactions. Including falls on concrete – ouch! On the fourth or fifth day we had the main programmer come to tweak the moves so they would work for the game.

My other credits include insisting the ninjas be Lin Kuei, the first fatality, and the use of props to help us video the project. Plus the kiss of death for Sonya and Katana and Mileena's fatalities, to name a few things.

Why was *Mortal Kombat II* your last appearance in the series?

I was promised that we were only going to produce 200 arcade cabinets. I mentioned if they were going to make more, I would get a game. They told me, 'No way, only 200 will be produced.' When its success exploded I asked what was going on and was promised a bonus. I did not receive that, but I thought they would get to it. It went to the home systems and again I mentioned our agreement. They told me not to worry, as we would be taken care of. Near the end of *Mortal Kombat II* they presented me with a new contract, basically signing my rights away with the basic dollar amount I mentioned to them when we first started the game – the cost of a game. I thought this was not fair and never helped them again.

Why do you think *Mortal Kombat* remains so loved by so many gamers?

The game made connections and friendships. People recall playing with friends or making friends playing the game – escaping to the basement or their room to play the game for hours, alone or with friends. Skipping school to play and getting in trouble. There are so many stories. Friendships continue even today. Some still play the game together with the same friends.

Do you have any final message for the *Mortal Kombat* fans out there?

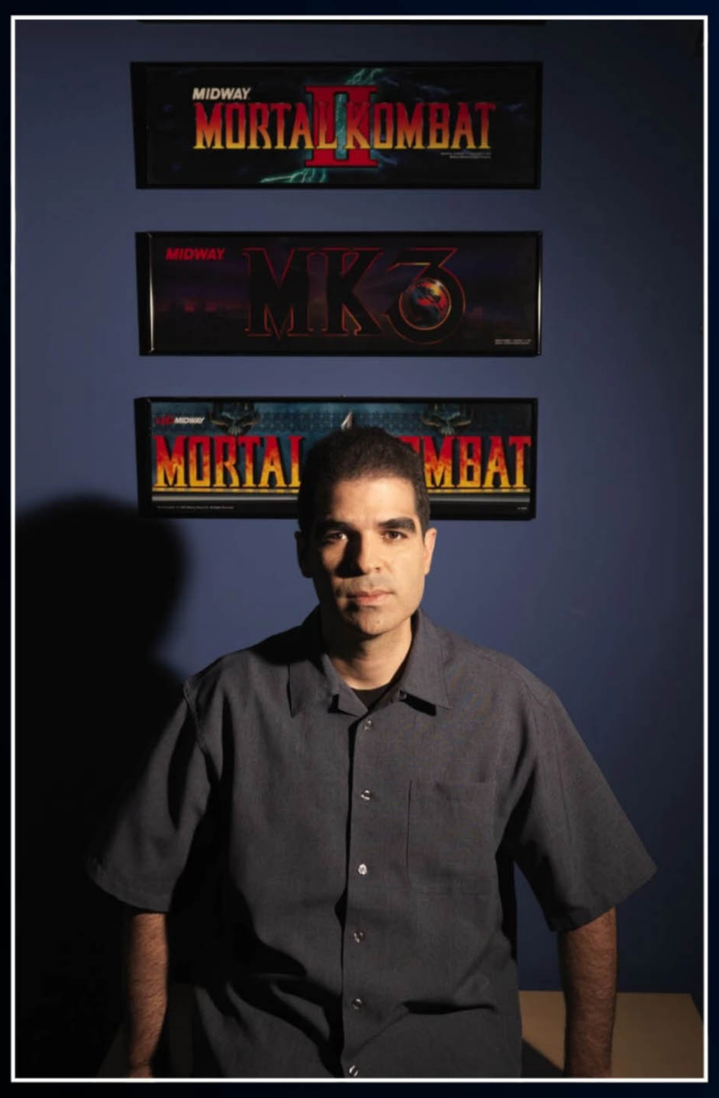
Tell your fans to keep creating and sometimes in life you must FIGHT!

real and its imagery was of real people and real objects," explains Ed. "The realistic look of our digitised characters prompted us to add other realistic elements like blood and it kind of took off from there." This digitised art style would be *Mortal Kombat*'s signature look, and would eventually come to influence a number of games such as *Way Of The Warrior*, *Tattoo Assassins* and even *Street Fighter: The Movie*.

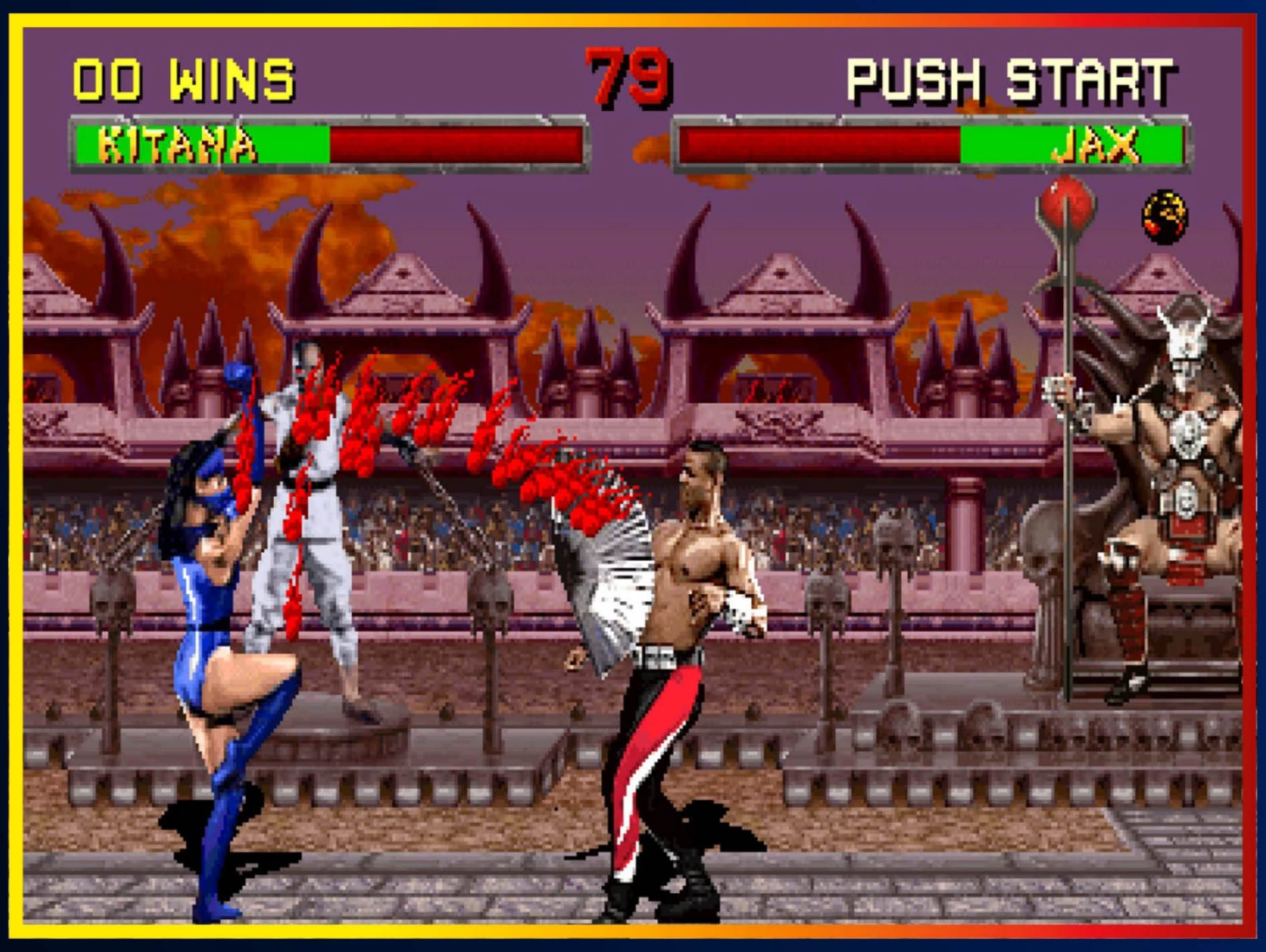
While the Midway team carved its own path when it came to the technological side of the game's appearance, there was plenty of pop culture influence when it came to the theme and style. "*Mortal Kombat* was inspired by many movies that we grew up seeing. *Big Trouble In Little China* certainly was one of those movies. The Asian theme and setting was John Tobias' idea," Ed tells us. "That, along with Dan Forden's music, really gave *Mortal Kombat* a lot of its feeling and overall tone." This look was very strong in the first game, and gained more fantastical elements in the second game, which took place in Outworld, another realm of the game's universe. *Mortal Kombat 3* instead focused on urban locations to sell the story of Outworld's invasion of Earthrealm, but the *Ultimate Mortal Kombat 3* update added more fantastical locations such as Scorpion's Lair to balance the themes a little better.

Character design was a little trickier. "We had never made a fighting game before, so we did a lot of experimenting. We did know that we wanted to make our characters do more 'magic' based special moves, rather than strictly martial arts," says Ed. This developed over the course of the original trilogy – while the characters were realistic in appearance, moves such as fireballs and energy waves added the fantasy element. Only the four-armed penultimate boss Goro had a truly outlandish design, and as a result he was the only character to be created with a clay model and stop-motion animation. But many of the original cast are the amongst the series' most beloved characters. "Scorpion and Sub-Zero are probably the most iconic and recognizable of all the *Mortal Kombat* characters," says Ed. "Raiden and Shang Tsung are up there too."

All four of the characters Ed mentioned were retained for *Mortal Kombat II*, alongside Liu Kang and Johnny Cage, and the new female fighters Mileena and Kitana used the same colour-swapping technique as Scorpion and Sub-Zero's sprites had in the original, saving space while adding more variety. But there were advances to be found – the game began to add crazier elements to the character designs, like Baraka's bladed arms and the incorporation of actual reptilian elements into the design of Reptile. *Mortal Kombat 3* developed the cast further, introducing the series' tradition of major cast refreshes by dropping five of the previous game's characters and adding seven new ones. This was partially because Midway had ended up in disputes with a number of the actors



» Ed Boon has been involved in the *MK* series since the beginning.



» *Mortal Kombat II*'s newcomers like Kitana quickly became popular mainstays of the cast.

that had portrayed characters in the first two games – some were recast, like Liu Kang, while others were removed. The game had even more fantasy elements, from the cyborg duo of Cyrax and Sektor to Sindel's hair attacks. Digitisation did prove to be a limiting factor later on in the 2D era, though. When the previously omitted characters were returned in updates of *Mortal Kombat 3*, the nature of the existing footage limited what the team could do – for example, *Mortal Kombat Trilogy* included new moves for Baraka, Kintaro and Shao Kahn, which had to be constructed using old sprites from *Mortal Kombat II* that had been left unused.

But as much as the characters and setting were appealing factors in *Mortal Kombat*, they wouldn't have gained players' attention if the fighting hadn't been solid. The initial game established the series' five-button system – high and low punch buttons, high and low kick buttons and a block button. "We wanted the player to be able to walk backwards without blocking during their opponent's attacks. We wanted to be different from *Street Fighter*," says Ed. "We also felt like the joystick should be used strictly for movement, while the other actions should be triggered via buttons." In *Mortal Kombat 3*, a run button was added, allowing players to rapidly close the distance between fighters. Advanced players would learn the potency of juggle combos in the first game – attack strings that kept a vulnerable opponent in the air for further hits. These were refined further in *Mortal Kombat II*, and *Mortal Kombat 3* added chain combos, preset inputs allowing players to inflict huge damage with a rush of blows. Combined with the run button, these additions made the third game far quicker and less defensively oriented than its predecessor.

Of course, the most spectacular attacks were saved for ending a fight. The original *Mortal Kombat* gave each character a single Fatality move, a gory special technique that would kill the opposing fighter. These were a huge source of controversy at the time, but they were also a key part of the game's appeal – while the moves themselves were completely over the top, it was still shocking to see them performed on relatively realistic character sprites. Surprisingly, these weren't a priority in development.

"Creating Fatalities back then mainly involved us trying to construct them by reusing existing art. We had a very limited amount of storage remaining in the game, which meant very little space for Fatalities," Ed explains. "You'll notice that a few characters' Fatalities (Raiden, Johnny Cage, Sub-Zero) all involved removing the opponent's head and having their body fall to the ground. Johnny Cage's Fatality reused his uppercut animation, and we just had the opponent's head pop off. So, we didn't have as much room to create original Fatalities for each ▶

TIMELINE

Here's the entire Mortal Kombat line of games, from start to finish

- 1992 — MORTAL KOMBAT
- 1993 — MORTAL KOMBAT II
- 1995 — MORTAL KOMBAT 3
- 1995 — ULTIMATE MORTAL KOMBAT 3
- 1996 — MORTAL KOMBAT TRILOGY
- 1997 — MORTAL KOMBAT 4
- 1997 — MORTAL KOMBAT MYTHOLOGIES: SUB-ZERO
- 1999 — MORTAL KOMBAT GOLD
- 2000 — MORTAL KOMBAT: SPECIAL FORCES
- 2002 — MORTAL KOMBAT: DEADLY ALLIANCE
- 2004 — MORTAL KOMBAT: DECEPTION
- 2005 — MORTAL KOMBAT: SHAOLIN MONKS
- 2006 — MORTAL KOMBAT: ARMAGEDDON
- 2006 — MORTAL KOMBAT: UNCHAINED
- 2007 — ULTIMATE MORTAL KOMBAT
- 2008 — MORTAL KOMBAT VS DC UNIVERSE
- 2011 — MORTAL KOMBAT
- 2011 — MORTAL KOMBAT ARCADE KOLLECTION
- 2015 — MORTAL KOMBAT X
- 2019 — MORTAL KOMBAT 11

» The zombified Liu Kang doesn't normally carry a giant hammer – he picked that up mid-battle.

fighter. But players never really knew this, and everything turned out okay I suppose."

The original Fatality moves were all quite dark, but as the 2D era progressed finishing moves became a source of levity in the series thanks to Friendships and Babalities. They were no easier to perform though, and the developers didn't explain how to do so. "From the beginning we wanted to have a lot of mystery elements in the game, which is why we never documented how the special moves and Fatalities were performed," Ed recalls. "Players had to discover the moves by themselves. That mystery element heightened the interest from players who kept wondering what else was in the game that they hadn't seen." That sense of mystery was a huge draw for the arcade crowd, and was heightened by another long-running *Mortal Kombat* tradition established in the 2D era – a proliferation of secrets. "I personally have always been a big fan of game secrets and Easter eggs. *Mortal Kombat* was our chance to go crazy with that," confesses Ed. "The original hidden character Reptile was my favourite. *Street Fighter* had a 'Sheng Long' rumour that some people thought was a hidden fighter or boss. So how cool would it be to *actually* have a hidden fighter in our game? The idea came to me one day while taking a lunch break and by that evening he was in the game. I didn't tell anyone he was in the game and was hoping it would be seen rarely enough that most people would think he wasn't real."

The green-hued ninja combined Scorpion and Sub-Zero's moves, and before long his existence was confirmed. By the sequel, the developers were actively working to create urban legends – the service menu for *Mortal Kombat II* had a counter for 'Kano transformations', fuelling the rumour that Shang Tsung could become the otherwise unplayable character. Actual secret characters Jade and Smoke would peek out from behind trees in one stage, and a third inclusion named Noob Saibot was completely black in colour. *Mortal Kombat 3* took this to its ultimate conclusion with Kombat Kodes, six-digit strings which could be input before matches to alter rules and unlock secrets.

The 2D era was a time of explosive popularity for *Mortal Kombat*. The original game was a huge success in arcades, and Acclaim capitalised on this with a raft of home conversions backed by a huge marketing campaign, promoting the 'Mortal Monday' release date in 1993. In a review of the SNES version, which had a lack of blood and fatalities due to Nintendo's content policies at the time, *Edge* complained that "the lack of blood 'n' guts goes a long way to reducing what gave the game its weird appeal" and opined that the underlying

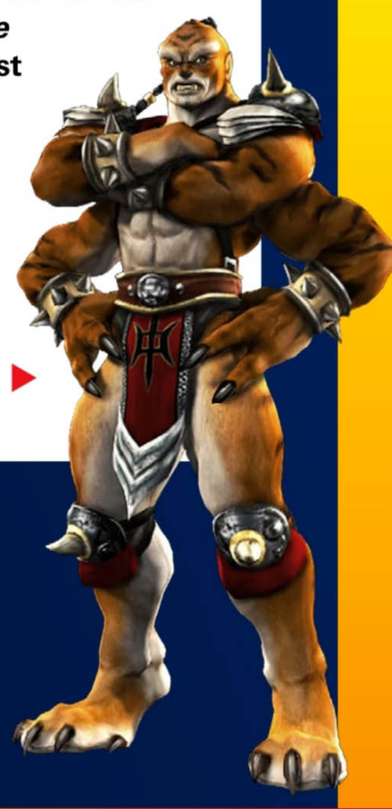
» Bo Rai Cho fights with human vomit. Lovely.

fighting wasn't as good as *Street Fighter II*. *Mortal Kombat II* tightened the game design considerably, and was much closer competition – evaluating it head to head with *Super Street Fighter II Turbo*, *CVG* felt that Midway's game had the advantage, assessing it as "a more exciting escapist game with more variety between characters and a far superior atmosphere". *Mortal Kombat 3* was also critically acclaimed, but that wasn't so unanimous as with the previous game. In the US, *Next Generation* magazine described the new characters as "desperately in need of something endearing" and complained that "in an industry which depends on innovation to keep it fresh and interesting, *MK3* just doesn't deliver". That didn't stop it performing admirably in arcades and at home, and two updates were released. *Ultimate Mortal Kombat 3* originated as a free upgrade for arcade operators, which rebalanced the game and added fan favourite characters like Scorpion and Kitana. The home-exclusive *Mortal Kombat Trilogy* included every existing character, plus stages and music from the first two games.

By this point in time, *Mortal Kombat* had gone about as far as it could in 2D. The industry was changing and though digitised sprites arguably looked more convincingly human than the 3D models of *Virtua Fighter 2* and *Tekken*, those were the games that *Mortal Kombat 3* had been in competition with. The decision was made to utilise 3D graphics starting from 1997's *Mortal Kombat 4*, beginning a new era for the series. This was initially a mixed blessing for the artists. On one hand, working in 3D allowed for any sort of movement the team wanted – there was some motion capture, but also a lot of manual animation. On the other, *Mortal Kombat 4* was the team's first 3D game and where it had led the way with digitisation, it was now essentially playing catch-up. Additionally, the series had lost one of its distinguishing factors as it was no more realistic than the competition. Despite these growing pains, the series caught up with the competition considerably with its first PS2 instalment *Mortal Kombat: Deadly Alliance*, and by the end of the generation *Mortal Kombat: Armageddon* looked as good as any other fighting series around.

The new graphical technology allowed the game design to evolve. *Mortal Kombat 4* introduced the ability to dodge attacks by sidestepping, an obvious but worthwhile use of the new 3D space. Environmental interaction became more important starting from *Mortal Kombat: Deadly Alliance* as stages could be different sizes and shapes, and occasionally contained objects. *Mortal Kombat: Deception* upgraded the arenas further by including death traps – a variation of the 'ring out' concept with a grisly twist, whereby if an unfortunate player was knocked into a designated area, they would instantly be killed and lose the round regardless of their remaining health. Another major development in the series during the 3D era was the introduction of weaponry. Weapons were a limited and gimmicky inclusion in *Mortal Kombat 4*, but *Mortal Kombat: Deadly Alliance* developed on the theme massively by incorporating them into new selectable fighting styles. Each character could choose from three fighting styles, two unarmed and one armed – these shared special moves, but the basic techniques of each were completely different and could be swapped out on the fly. This system persisted through *Deception*, but was scaled back to two styles for *Armageddon*. Other gameplay innovations included the Breaker, a technique introduced in *Mortal Kombat: Deception* allowing the player to interrupt their opponent mid-combo in order to regain the initiative.

The major cast refreshes that had started with *Mortal Kombat 3* became a key theme of the 3D era. *Mortal Kombat 4* didn't include any of *Mortal Kombat 3*'s newcomers, and *Deadly Alliance* went even further, discarding almost every character that had debuted in the previous game and even dramatically killing off series hero Liu Kang. Deception dumped slightly less of the *Deadly Alliance* cast, but by the time *Mortal Kombat: Armageddon* pulled together a full cast reunion,



"From the beginning we wanted to have a lot of mystery elements in the game"

Ed Boon

» Kratos feels right at home here as a guest character.

FINISH HIM

Mortal Kombat offers many ways to deal with your unfortunate opponent at the end of a match. Do you remember them all?

FATALITY

MORTAL KOMBAT

■ The original finishing move, and for many fans the best. *Mortal Kombat*'s Fatalities let you murder your opponent in cold blood, often in an amusingly creative manner.

FRIENDSHIP

MORTAL KOMBAT II

■ Instead of killing your opponent, why not offer to try to make a friend of them? This definitely wasn't a pointed response to controversy.

STAGE FATALITY

MORTAL KOMBAT

■ Certain stages offer unique ways of killing your opponent, like a plunge into acid. The Pit's spiked floor is the original and most famous of the lot.

BABALITY

MORTAL KOMBAT II

■ If you can beat your opponent while using a restricted set of moves, you can turn them into a baby. What a lovely way to mock your friends.

MERCY

MORTAL KOMBAT 3

■ When you feel like you haven't beaten your opponent badly enough, you can sacrifice some of your own life to let them fight on.

ANIMALITY

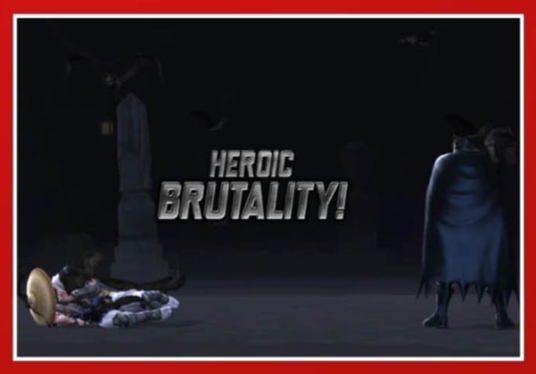
MORTAL KOMBAT 3

■ These are like regular fatalities, except your fighter turns into a fearsome animal like a polar bear, shark, giant tarantula or rabbit.

BRUTALITY

ULTIMATE MORTAL KOMBAT 3

■ These 11-hit combos end with your opponent exploding in a shower of gore. They're harder to perform than regular fatalities, and less fun.



HARA KIRI

MORTAL KOMBAT: DECEPTION

■ Your fighter can commit suicide – but only if you get the right command in before the winner of the match performs their own.

KREATE-A-FATALITY

MORTAL KOMBAT: ARMAGEDDON

■ Rather than having individual finishing moves, this system allowed a gigantic cast of fighters access to the same suite of mutilation methods.

HEROIC BRUTALITY

MORTAL KOMBAT VS DC UNIVERSE

■ You couldn't have Superman kill someone, so the DC lot have access to these comparatively tame and disappointing nonlethal finishes.

FACTION KILL

MORTAL KOMBAT X

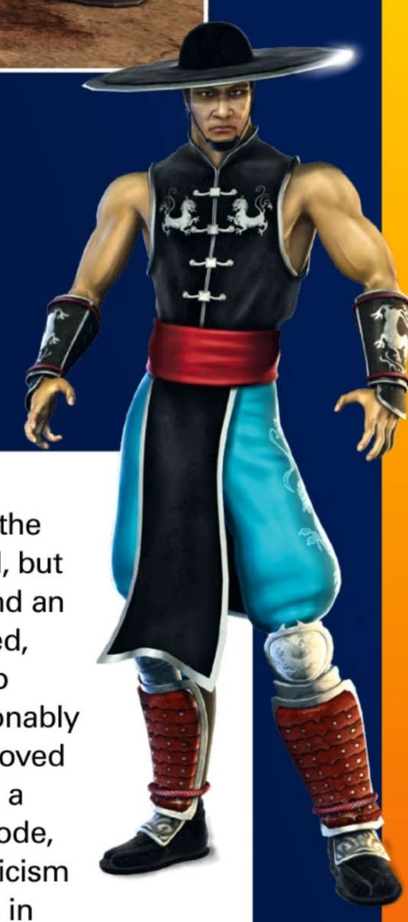
■ Each of *Mortal Kombat X*'s five factions has five unique and simple death blows, which can be utilised no matter which character you've chosen.

» The series has picked up quite the roster over the years.

» The arenas are a big part of *Mortal Kombat*'s appeal.

"I personally have always been a big fan of game secrets and Easter eggs. MK was our chance to go crazy with that"

Ed Boon



there were over 60 characters to include – an impressive number. That wasn't the only way the 3D era games impressed with content, as the single-player Konquest mode provided an action-RPG quest for players to sink their teeth into. The 3D era also introduced the concept of the Krypt, a vault of unlockable goodies, as well as robust minigames. The falling block game *Puzzle Kombat* and *Chess Kombat* appeared in *Deception*, and the kart racer *Motor Kombat* debuted in *Armageddon*.

Mortal Kombat's 3D era was interesting and experimental, and despite not being the pop culture phenomenon it had been during the early Nineties, the games were still positively received by both critics and audiences. Typical review scores for *Deadly Alliance* hovered around the 8/10 mark and in a 2011 interview with *NowGamer*, Ed mentioned that it had sold 3.5 million copies. Deception fared similarly well critically and sold 1.9 million copies in a year. *Mortal Kombat: Armageddon* didn't fare quite as well critically, receiving scores that were more solidly in the 7/10 range. Part of the reason for this was a sense that the series was bloated – "While fans of the series may struggle not to drown in their own drool over this massive cast, anyone even marginally less fanatical won't recognise at least half of them," noted Luke Albigés in a 5/10 review for *Eurogamer*. "While there's obviously been some attempt to differentiate between them, the fact that so many characters look and play alike is still very much in your face." *Armageddon* still did well in shops, shipping over a million copies before the Wii conversion was even released. These were solid numbers, but it seemed that the series was experiencing diminishing returns.

The introduction of the HD consoles was an opportune time for a change of approach. Ed intimated that the tentatively titled *Mortal Kombat 8* would be darker and grittier, with visuals inspired by *Gears Of War*. Ed had promised that the team was "reinventing everything from the ground up" in an interview with *Game Informer* at the time, as "we really think that's needed". That ultimately came to pass, but a licensing deal put it on the backburner while *Mortal Kombat Vs DC Universe* was developed. The game saw Batman, Superman, Wonder Woman and The Joker doing battle with a selection of the *Mortal Kombat* cast, and served as a bridge between the 3D fighters and the HD era proper – the fighting still included full 3D movement and arena interaction in the form of mini-segments like Free-Fall, but the fighting style system was out and an excellent new story mode was added, which served to introduce players to the characters. The game was reasonably well received thanks to improved combat mechanics and a compelling story mode, but there was criticism of the reduction in gore and lack of unlockable secrets compared to previous games. The game still sold 1.9 million units within just a few months, but that wasn't enough to save Midway from bankruptcy in 2009.

The *Mortal Kombat* series was bought by Warner Bros, which also acquired the *Mortal Kombat* team's Chicago studio. This ultimately became NetherRealm Studios, the developer of the games today. Under this new ownership, the HD era began properly, marked with a 'back to basics' approach that has delivered critical acclaim and strong sales. The cast and setting were both revamped in 2011's *Mortal*

» Sub-Zero – in his different incarnations – is a series mainstay.

Kombat, in which Raiden sent visions to his past self – allowing the story to reset to the characters and settings of the 2D era. Why did the team go backwards? "The original games are seared into *Mortal Kombat* fans' memories," according to Ed. "Plus, the team loves to revisit that era." The game's story mode followed the template laid down by *Mortal Kombat Vs DC Universe*, with each chapter focused on a single character, and this became a staple of the series. *Mortal Kombat X* was set 25 years later and ensured that some of the newcomers retained connections to the classic characters – Johnny Cage and Sonya Blade's daughter Cassie and Jax's daughter Jacqui being the most obvious. Time is also the theme of the latest game in the series. "*MK11* does not return to the past. Rather it brings past characters to the present to meet their older counterparts. This is part of the magic of what happens in the *Mortal Kombat 11* story. It's crazy," says Ed.

2011's *Mortal Kombat* also revamped the fighting style of the series, returning the action to a 2D plane and adding a three-level super move gauge. This enabled the use of enhanced special moves at the first level and combo breakers at the second, but it was the new X-Ray moves that drain a full gauge that proved to be a perfect addition to the series. As well as doing massive damage, they showed detailed injuries in grisly close-up detail – shattered skulls, broken ribs and all. *Mortal Kombat X* retained them and added interactivity to arenas, with players able to throw or jump off objects from the background. Those changes might seem at odds with the return to fundamentals, but it's business as usual in the context of the series. "Our approach with all the *Mortal Kombat* games, including *Mortal Kombat 11,* has been to always introduce a lot of new elements and features – change things up – so the games always feel fresh," Ed says. "This was certainly the approach with *MK11*.

"We switched our fighting mechanic quite a bit by introducing Krushing Blows, changing the meter so it splits offense and defensive moves, and tying the Fatal Blows to the player's health meter. This has dramatically changed up the pace and tension of the fight," says Ed, explaining the changes in *Mortal Kombat 11*. "The fighting is closer up which makes it feel even more intense." The two new move types are the most notable additions. "Krushing Blows are ways to dramatically increase the damage certain moves

FATAL DISTRACTION

While the main fighting franchise has always done well, Mortal Kombat hasn't always fared well with side-stories

It's fair to say that *Mortal Kombat* spends a lot more time on plot and worldbuilding than most fighting game series. With that in mind, the idea of spin-offs starring popular characters might sound like a good one, but the results have been decidedly mixed. *Mortal Kombat Mythologies: Sub-Zero* was a particularly poor start. Exploring the history of the Lin Kuei assassin prior to the events of the original game, it introduced important storyline characters such as Shinnok and Quan Chi before they appeared as fighters in *Mortal Kombat 4*. Unfortunately, the attempt to mix *Mortal Kombat*'s fighting style with 2D platform gameplay and RPG elements proved disastrous, and the game was reviled by the press.

Mortal Kombat: Special Forces fared even worse. Going back even further in storyline terms, this action adventure followed Jax as he hunted down the members of the Black Dragon gang, who had been freed from prison by Kano. The game suffered from a troubled development marked by multiple staff departures, and Sonya Blade was cut from the project entirely. Reviewers mauled the game, and In a 2008 interview with *GameDaily*, Ed Boon cited it as the only game in the series that hadn't made money.

After two fairly disastrous attempts you'd have forgiven the team for giving up, but *Mortal Kombat: Shaolin Monks* is reason enough to be grateful that they didn't. This beat-'em-up starred Liu Kang and Kung Lao, and mined *Mortal Kombat II* for nostalgic characters and settings. The series' trademark violence was present and correct, and co-operative multiplayer action contrasted well with the competitive nature of the main games, and the game deservedly received a positive critical reception and sold over a million copies. Unfortunately, a sequel starring Scorpion and Sub-Zero was cancelled early in development as the game couldn't be delivered to Midway's desired deadline and budget.

» Ronda Rousey provides the voice for Sonya in *MK11*.

» Of course, Scorpion returns in the latest game.

"The original games are seared into Mortal Kombat fans' memories, plus, the team loves to revisit that era"

Ed Boon

will inflict and come with a great X-ray looking visual effect," Ed tells us. "Every fighter has multiple Krushing Blows and each is triggered differently. This adds yet another layer of strategy to the fighting and makes the variety of fights that much less predictable." Fatal Blows are the new super moves, replacing X-Ray attacks, and Ed is very excited about them. "They are now available when your health meter drops below about 30 percent. This dramatically increases the tension of the fight and changes both players' strategy once a Fatal Blow is made available. Suddenly you have this crazy powerful move at your disposal, and your opponent knows it!" There's also a new system of gear – each fighter can equip three pieces which will affect the way they fight.

The NetherRealm team clearly got a taste for crossovers after *Mortal Kombat Vs DC Universe*, as the HD era has been distinguished by the trend of crossover fighters finding their way into *Mortal Kombat*. Kratos made the journey from the *God Of War* series to the PlayStation versions of 2011's *Mortal Kombat*, and *Mortal Kombat X* featured classic horror movie characters as DLC additions – the Alien, Predator, Jason Voorhees, Freddy Krueger and Leatherface. "We always try to have some kind of 'surprise' characters for DLC in all of our games. Sometimes those fighters are 'guests' from other universes, and sometimes they are returning *Mortal Kombat* fighters who haven't been seen in a long time," says Ed, who also notes "you shouldn't be surprised to see both in *MK11*."

2011's *Mortal Kombat* began the series' return to prominence. Review scores were a good step ahead of *Mortal Kombat Vs DC Universe*, with *GamesRadar*'s 4/5 review praising it as "a successful sequel that both reboots and redeems the wayward series." The game sold close to 3 million copies in four months, and according to Warner Bros covered the entire cost of the Midway acquisition on its own. *Mortal Kombat X* fared just as well critically, being described as "an accomplished fighter as well as a gruesome theatre of punishment" in *Play*'s 9/10 review. It did even better than its predecessor at retail, becoming the fastest selling entry in the history of the series by shifting 5 million copies in six months. The HD era has also seen the *Mortal Kombat* series embraced by the esports scene. The series first appeared as a featured game at the prestigious Evolution Championship Series in 2012, and players such as Perfect Legend and SonicFox have made their names competing in *Mortal Kombat*. *Mortal Kombat 11* is available to play now and is another solid game in the series.

That's where *Mortal Kombat* is today. The gore is still there, but the controversy has largely gone – and knowing that notoriety will only get you so far, NetherRealm has refined *Mortal Kombat* into a game that rivals anything else in the fighting scene. But there's no sense that the team is resting on its laurels. "I personally believe the series has remained popular because we are not afraid to change things up with each version of *Mortal Kombat*. Every game has something new to offer fans of the series, and they have stuck by us because of that," says Ed. "I don't know many game series that have been around for over 25 years and whose most recent versions have been their biggest sellers." He's certainly got a point – and we'll be fascinated to see the places the series will go with another decade or two of evolution.

THE TALE OF SNK

FROM ARCADE MACHINES TO CONSOLES AND FROM FIGHTING GAMES TO THEME PARKS, **SNK** HAS DONE IT ALL. WE SPEAK TO STAFF FROM THE COMPANY'S PAST AND PRESENT TO FIND OUT ABOUT THE HIGHS AND LOWS OF THE LAST FOUR DECADES

Words by Nick Thorpe

OF SNK

With 2018 being SNK's 40th anniversary year, the company is celebrating as its fans would hope. SNK is healthy and creating brand-new games, as well as celebrating its heritage with a mini Neo-Geo and a compilation of early arcade games. But its road to this milestone hasn't always been a smooth one. The company has been one of the arcade industry's top players and was the first to prove that a market exists for luxury consoles, but it has also experienced bankruptcy and even seemed to have left the videogames market behind in the not-too-distant past. But whatever its fortunes, SNK has always been a fascinating company to follow.

SNK was founded as Shin Nihon Kikaku (New Japanese Product) in 1973 by Eikichi Kawasaki, but its history as a videogame developer only dates back to its incorporation as a stock company in July 1978. The company started with capital of 3 million yen (less than $25,000 at the time), with the company setting up its office in Higashiosaka. SNK's earliest games were *Ozma Wars* and *Safari Rally*, but its first major hit was a shoot-'em-up called *Vanguard* which offered four-way shooting and levels which scrolled in different directions. The game didn't just hit big in Japan, as *Centuri* licensed it for the North American market and the game's success there saw it licensed for home conversion by Atari. This success was followed by more games including *Lasso*, *Marvin's Maze* and *Vanguard II*.

The early years of SNK were characterised by the explosive growth of the company. By the end of 1983, the company had ten times its starting capital. In 1984 it moved its headquarters to Osaka, where the company grew at a rapid pace. In September 1985 it had increased its capital by 18 million yen, another 60 per cent growth in less than two years, and the following year was a landmark. 1986 saw the company officially change its name to SNK, which it had been using on marketing materials for some years prior, and it introduced some notable hit games that proved popular with gamers such as *Ikari Warriors* and *Athena*. Both games received follow-ups to capitalise on their success in the form of *Victory Road* and *Psycho Soldier*. The company also moved into the development of games for home systems, most notably the NES. ▶

» *Ozma Wars* is a fantastic early take on the shoot-'em-up genre and it still presents a challenge today.

HARDCORE HARDWARE

SNK released four distinct home systems in the Nineties – here are the fast facts on each

NEO-GEO AES

RELEASE DATE: 1990
FINAL RELEASE: *Samurai Shodown V Special*, 2004
LAUNCH PRICE: ¥58,000 / $649 / £399
GAMES: 117
NOTES: Initially offered as a 'Gold System' bundle with two controllers and a game. Later models included the Controller Pro joystick.

NEO-GEO CD

RELEASE DATE: 1994
FINAL RELEASE: *The King Of Fighters '99*, 1999
LAUNCH PRICE: ¥49,800 / $399 / £399
GAMES: 97
NOTES: Three versions of the console were released – a front-loading model, a top-loading model and the CDZ.

NEO-GEO POCKET

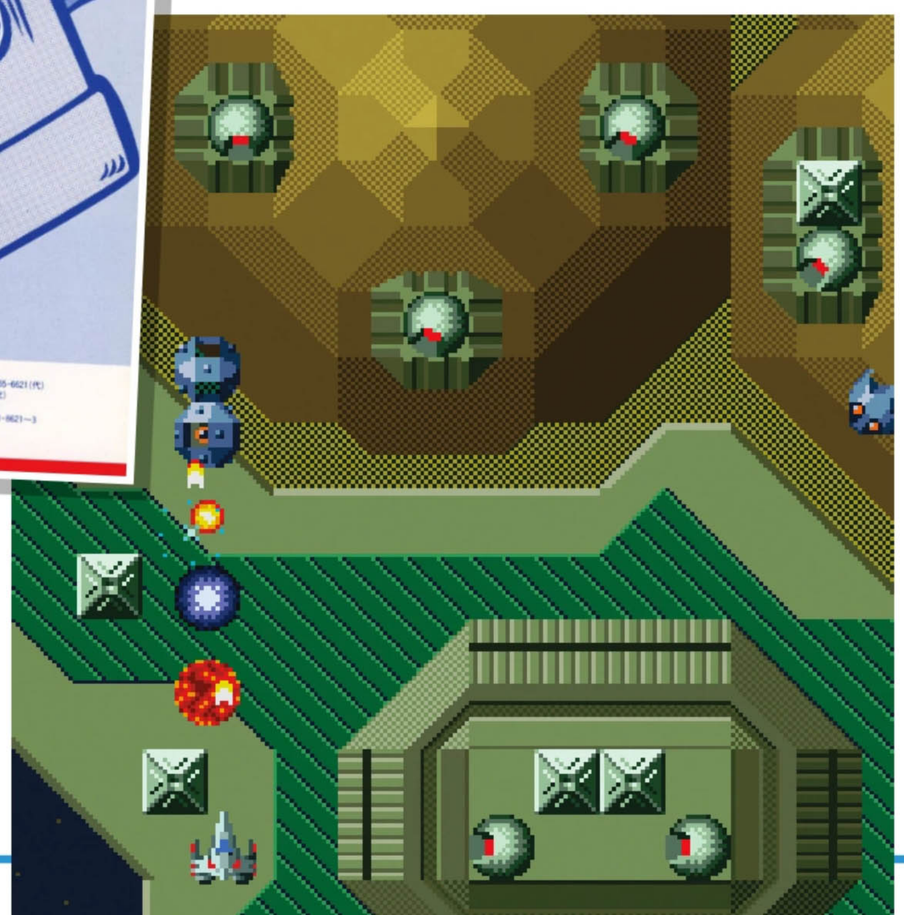
RELEASE DATE: 1998
FINAL RELEASE: *Samurai Shodown!*, 1998
LAUNCH PRICE: ¥7,800
GAMES: 9
NOTES: 39 Neo-Geo Pocket Color games also support the original Neo-Geo Pocket hardware.

"GAME CONSOLES IN THE EIGHTIES HAD VERY LIMITED DISPLAY SPECS"

Hiroko Yokoyama

» [Above] *Fantasy* was an impressive early release from SNK that featured all sorts of varied levels and a strong narration.

» [Right] *Alpha Mission* is known as *ASO: Armored Scrum Object* in Japan.



One of the developers that joined during this period was Kasatoshi Yoshino. "I would say there were roughly 100 people working at SNK when I joined the company," remembers Yoshino, who joined in April 1985. Hiroko 'Minako' Yokoyama, who joined SNK in April 1987 as an illustrator and graphic artist, provides a little more detail. "I mostly remember the development division, which was divided at that time into four planning, one sound and one software departments for approximately 30 employees. There were four to five people in each planning department." Although videogames tends to be considered a male-dominated industry, Yokoyama wasn't the only woman at SNK. "There was at least one female staff working in every development department, but also at the sound and the marketing divisions."

Yoshino's job as a developer was a varied and enjoyable one. "I took care of the follow-up on the planning and debug on all the titles released between 1985 and 1987," he explains. "I was really excited to be involved in game development. I had a lot of fun and good times when I went for lunch with my coworkers, and talked with them about videogaming." However, this excitement went hand in hand with hard work. "I also remember being busy, sleeping for a few hours in a hotel close to the company, and working from early in the morning until the middle of the night searching for eventual bugs and issues on titles just before release."

Yoshino's recollection of SNK as a place where enthusiastic gamers worked hard explains how he ended up doubling up as a sound composer on *ASO* and other games. Despite the size of the company at the time, there was a surprising degree of flexibility around each person's job. "As the sound department had no staff when I joined SNK along with a programmer, we started working at creating sound. I was later promoted as 'super adviser', which allowed me to give my opinion and advice on sound creation." Continuing from that, Yoshino later became SNK's PR manager. "I was mainly doing marketing research. I was in charge of events in collaboration with game magazines, planned game strategy books, community fan books such as '*Video Game Land*', telephone services, and many more projects."

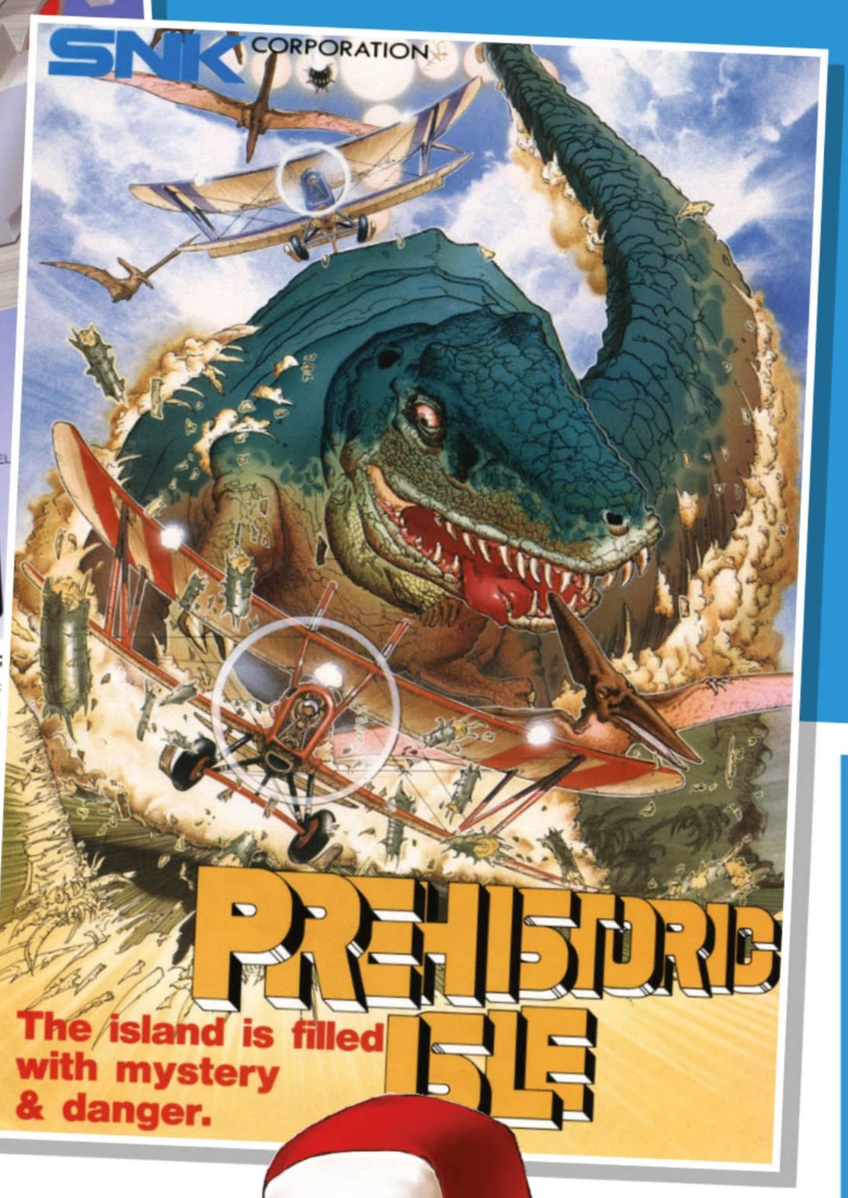
Yoshino wasn't the only one who found that SNK was a place to experience new challenges. "I remember it was very hard at the beginning as I had to learn and remember tons of things," explains Yokoyama. "I was from design school, which means drawing was the only thing I was able to do when I joined SNK. I had no experience at all with computers, and had a lot of busy days at SNK.

"It depended on the game, but I was usually involved from half a year to one year per project I also remember working two full years on a project. Dot pixels before the Neo-Geo were mainly made with Sony's SMC-777 development tools. SMC-777s were used to create *Ikari Warriors* on MSX-2. We had a lot of difficulties and headaches when porting arcade games to home consoles, due to the technical limitations of those systems. Game consoles in the Eighties had very limited display specs."

Yokoyama's explanation of the design philosophy behind SNK's games at this time goes a long way to explaining their success. "Mr Oba [Koji Obata] made

NEO-GEO POCKET COLOR

RELEASE DATE: 1999
FINAL RELEASE: *SNK Vs Capcom: Card Fighters Clash 2 Expand Edition*, 2001
LAUNCH PRICE: ¥8,900 / $69.95 / £59.99
GAMES: 73
NOTES: Backwards compatible with all nine original Neo-Geo Pocket games.



» [Left] An early arcade flyer, showing of SNK's interesting isometric take on Pac-Man, Marvin's Maze.

» [Below] SNK's flyers did a great job at making arcade owners excited about stocking its latest games.

sure when he was working on titles such as *TNK III*, *Ikari Warriors* and *Guerilla War* that the enemy positions as well as the game difficulty will slightly change at every try for endless replayability. He also made sure to add an 'exit way' to every in-game situation that looked unescapable. These difficult games were not just giving frustration to players, but hid also the pleasure to see enemies changing their position and behaviours depending on [how] these games were played."

As it reached its tenth birthday, SNK was in a strong position. The company had just moved into a new headquarters, and 1988 saw the company release more arcade games than any previous year. The momentum continued right through to the end of the Eighties, with plenty of arcade releases including the company's first ever one-on-one fighting game, *Street Smart*. The company was also becoming a more ambitious developer of games for home systems, starting work on the Game Boy with *Dexterity* and finding receptive audiences on the NES with original projects such as *Baseball Stars* and *Crystalis*.

However, it was in 1990 that SNK's arcade division took its next major step into the future. The company introduced a popular lightgun game called *Beast Busters* that year, utilising a unique cabinet with three mounted guns. It's notable not just because of its heritage, but because it marks the end of the pre-Neo-Geo era. The Neo-Geo range kicked off with the MVS arcade board. Games were offered on relatively affordable replaceable cartridges, and boards featured up to six cartridge slots, allowing for owners to add more games without taking up additional floor space. Other companies had previously marketed similar systems, but these had generally been based on home console hardware, which lagged far behind what could be found in arcades. SNK approached the situation from the opposite direction, as the MVS was a thoroughly modern arcade board – and the home console equivalent was, too.

» *Garou: Mark Of The Wolves* is considered by many to be one of the finest looking 2D fighting games of all time. It's hard to disagree.

Originally intended for rental use only, the Neo-Geo Advanced Entertainment System was launched in Japan in 1990. This proved so popular that SNK quickly realised that there was a market for a retail release, which followed in 1991 along with launches in other regions. The console was a powerhouse that provided uncompromised arcade games, with massive sprites and voice clips that owners of other consoles could only dream of. That power came at a price, though – the console itself was £400 and the game cartridges cost £150 or more. For comparison, in 1991 £400 could buy you an Amiga with 1MB RAM, ten games and accessories. £150 would have bought you a Mega Drive and a game to play on it. As a result the AES achieved a status as a luxury console, owned only by the most dedicated players. It still worked for SNK, as AES games had a negligible development cost due to using the same code as their arcade counterparts.

» Yasuyuki Oda joined SNK as an artist and has served as a planner and now a producer

While the Neo-Geo AES had a naturally limited market, the Neo-Geo MVS was a big success. ▶

» [Above] *Ikari Warriors* was on of SNK's first big surprise hits in the west.

» [Right] It might look superficially similar, but *The Last Blade* is very different to the *Samurai Shodown* series.

"AT THE TIME IT WASN'T UNCOMMON FOR PEOPLE TO PULL ALL-NIGHTERS. THERE WAS ALWAYS SOMEBODY AT THE OFFICE"

Yasuyuki Oda

Apart from being very convenient and affordable for arcade operators, the system offered a good mix of games. Early titles included such diverse games as *NAM-1975*, *Puzzled*, *King Of The Monsters*, *Magician Lord* and *Super Baseball 2020*. One early hit that proved pivotal was *Fatal Fury*, a fighting game from former *Street Fighter* creator Takashi Nishiyama. Following up on the success of the game and popularity of the genre, SNK started a number of series including *Art Of Fighting*, *Samurai Shodown* and eventually the crossover *King Of Fighters* series, and gained a formidable reputation as a developer of fighting games. These were all successful games that allowed the company to grow rapidly, and as time went on SNK specialised in the genre. "Since I studied animation in school, I thought I'd work in either the games industry or the animation industry," says Yasuyuki Oda, who joined during this period of expansion and worked on many fighting games for SNK until 2000, before returning to the company in 2014. "I'm from Osaka, and in Osaka you've got Konami, Capcom and SNK. I applied to all three in 1993 and was accepted at SNK."

You might be surprised to learn that even working with the Neo-Geo, developers still felt limited by the hardware. "The specs for the system weren't actually that high, so we had to develop tricks to get the games to display as we wanted them to display," says Oda. "For example, to create a weak punch, you'd have three frames of animation, and display them one, two, three, two, one to show the arm coming back. For a heavy punch, you could reuse the first two frames and then finish with a new fourth frame for the hit, then go backwards from three to one as the arm comes back."

Despite the company's growing success, the culture at SNK remained the same, with creators who were passionate about what they made. "There was competition between the teams, but it was a positive kind of rivalry. My favourite game from the other teams was *Samurai Shodown II*." Of course, that meant

» Showing off some impressive fiery effects in the enjoyable fantasy platformer *Magician Lord*.

that the culture of hard work also persisted. "The laws are very different now, but at the time it wasn't uncommon for people to pull all-nighters. There was always somebody at the office," Oda recalls. "There was a time that I was so busy that I was only allowed two hours on Sunday to go home and get clothes for the week. One week, the train fare from Shin-Osaka to the office in Esaka was 160 yen. When I came back, the fare was 180 yen and that was when I was finally able to read that there was a new prime minister."

Buoyed by its success and aiming to bring its games to a wider audience, SNK announced the Neo-Geo CD console at the Tokyo Toy Show in June 1994 and released it in September. The theory behind this move made sense. Although CDs were slow to load (especially with the console's single-speed CD-ROM drive), they were cheaper to produce than the smallest Neo-Geo cartridges and offered greater storage capacity then the biggest. A bit more work was required to convert the games but they could be enhanced with CD audio and sold much more cheaply, with prices ranging from 4,800 yen to 7,800 yen. Greater third-party involvement and dedicated home games were also slated for the system, including reports of an updated version of *Crystalis*. With its sights firmly set on mass market success, there was no rental trial for this machine – instead, SNK embarked on a promotional tour of six cities, starting in Hokkaido.

The Neo-Geo CD hardware itself was introduced at a high price because the system required significantly more RAM than its cartridge counterpart, but that didn't stop the system selling out its initial stock of 30,000 on day one. The Neo-Geo CD had over 30 games by the end of 1994, and in 1995 it started to receive games like *Puzzle Bobble* that didn't appear in cartridge form, and received exclusive developments such as *Crossed Swords 2*. However, these were thin on the ground and the flagship game *Samurai Shodown RPG* was heavily delayed. What's more, the Saturn and PlayStation both launched within a few months of the Neo-Geo CD's introduction, and both consoles were cheaper and capable of displaying

SNK'S STARS

SNK has produced some iconic characters over the years. How many of these do you recognise?

TERRY BOGARD

■ Whether he's wearing his iconic red jacket or his stylish *Mark Of The Wolves* outfit, the 'hungry wolf' is SNK's most noteworthy hero. He originally pursues revenge against Geese Howard, and later becomes an adoptive father to Rock Howard.

MAI SHIRANUI

■ Introduced in *Fatal Fury 2*, Mai is one of SNK's most popular fighters. She's smitten with Andy Bogard, who trained with her family, and she's recently cameoed in *Dead Or Alive 5: Last Round*.

GEESE HOWARD

■ The most recognisable villain in the SNK universe is emblematic of difficult fighting game bosses. Despite his propensity for falling off of tall buildings, he's a constant thorn in Terry's side and even makes a cameo appearance in *Tekken 7*.

HAOHMARU

■ This swordsman is the most recognisable character of the *Samurai Shodown* series, and is a lover of food and sake. He has a deadly rivalry with his former training partner Genjuro Kibagami.

NAKORURU

■ A reluctant fighter who is dedicated to her mission of protecting nature. Though her weapon has a short range, Nakoruru is fast and has the assistance of her hawk Mamahaha or her wolf Shikuru.

AMAKUSA

■ A vengeful spirit resurrected by the malevolent god Ambrosia. Amakusa's goal is to bring Ambrosia into the mortal realm.

MARCO ROSSI

■ The combat leader of PF Squad, the heroic faction of the *Metal Slug* games. His resignation was denied after the events of the first game, and surprisingly he's also a talented programmer.

TARMA ROVING

■ A member of the PF Squad and a friend of Marco's, Tarma is less serious than his comrade. He had intended to set up a motorbike shop after Morden was defeated, but his superiors coaxed him back into service.

GENERAL DONALD MORDEN

■ The main antagonist of the *Metal Slug* series, he was driven to insanity after his son was killed in a bombing, and joined the rebel army. Morden has been known to make odd alliances, including teaming up with Martians.

G-MANTLE

■ This masked fellow is an oddity – though he's never been the star of his own game, he was frequently seen in early Neo-Geo advertising and has cameos in games such as *The King Of Fighters 2000* and *Card Fighters Clash*.

NEO POKE-KUN

■ A Neo-Geo Pocket mascot and the star of *Ganbare Neo Poke-Kun!*, a game in which Neo Poke-Kun lives in your console and makes minigames. He also cameos with Yuki in *Neogeo Battle Coliseum*.

ATHENA

■ A princess who lands in the Fantasy World as a result of boredom and curiosity. Her descendant Athena Asamiya is in *Psycho Soldier*, and she's a secret boss in *SNK vs Capcom: SVC Chaos*.

KYO KUSANAGI

■ Introduced as the face of *The King Of Fighters '94*, Kyo is a student who has the ability to create flames, which makes him a devastating fighter – and a target for organisations which wish to clone or kill him.

IORI YAGAMI

■ Introduced in *The King Of Fighters '95* and quickly became popular. He bears a personal grudge against Kyo, and his purple flames are caused by the curse of the evil Orochi.

RUGAL BERNSTEIN

■ A ruthless arms dealer and the organiser of the *King Of Fighters* tournaments in 1994 and 1995, this villain likes to preserve the bodies of foes in liquid metal as statues. He was created to be the ultimate boss, and he's tough as nails.

RYO SAKAZAKI

■ *Art Of Fighting* introduced us to this serious karate practitioner, as he searched for his kidnapped sister Yuri. His dojo is always looking for recruits, and he's got a bit of an eye for his former foe King.

ROBERT GARCIA

■ Another Kyokugen karate user, Robert joins his best friend Ryo in the search for Yuri. He's hot-headed and wealthy, unlike Ryo, and despite being from Italy he speaks Japanese with the Kansai dialect, which is commonly associated with comedians.

MR KARATE

■ A fearsome fighter wearing a Tengu mask, and the final boss of *Art Of Fighting*. He's later revealed as Takuma Sakazaki, a karate dojo owner working for Geese Howard because of threats against his children Ryo and Yuri.

DESIGNER PIXELS

Hiroko Yokoyama explains the graphical development of some of SNK's most recognisable games

How much support did you have from the *Ikari Warriors* arcade team when working on the MSX2 version?

Mr Oba [Koji Obata], who was the main leader of the team in charge of the arcade version of *Ikari Warriors*, helped us a lot when porting the game to MSX2. He shared with us the dot pixel data of the original game. Unfortunately, the map data was missing, and we had a lot of trouble because of this.

What sort of materials did you use for reference and inspiration when working on *Guevara (Guerrilla War)*?

There were almost no books about Che Guevara in Osaka in 1987. I had to go to one of the biggest book stores in Osaka, where I finally found three books about Che Guevara's life. There was also very little documentation about Cuba at that time, but I found a few pages about this country and its streets in a magazine for men. It was way after I thought I should have searched in secondhand bookstores for books about Che Guevara that were published in Japan in Sixties and already out of print.

***Crystalis* had a fantasy theme, unlike the military games you worked on beforehand. How did you come up with the character designs for this game?**

The development of the game had already started when I was involved in this game, and I was told by the original team members that I could draw freely, as long as the main character had red hair and was wearing blue armour. I used manga and anime that were popular in Japan at that time for my reference, and proposed to the planners three variations of Mesia. After being informed on the details of the Four Sages, I started working on their design. I also made sure to draw Athena and Kensou as adult versions of Psycho Soldiers. I drew monsters in dot pixels, but also some imagined from the game settings and atmosphere. After the planners chose and approved the design of the Four Sages, I polished and added details to these characters until their final design get approved.

» SNK is known for its stellar sprite art, and that's been a fact since its early games like *Guerrilla War.*

» SNK's first portable console didn't last long before it was given a brand-new colour upgrade.

▶ 3D graphics. SNK introduced the Neo-Geo CDZ in December 1995, which delivered faster loading times, but it couldn't halt the format's decline – there were fewer games released in the Neo-Geo CD's last four years than its first four months.

Even as early as the mid-Nineties, the original Neo-Geo hardware seemed to be nearing the end of its natural life as a flagship product. Still, SNK made advances in other areas, as the company launched a chain of Neo-Geo Land arcade locations. The first Neo-Geo World was launched in Tsukuba in December 1995, offering a variety of attractions including simulator rides, bowling, karaoke rooms, restaurants and plenty of arcade games. In 1996, the Neo Print amusement photo booth was introduced, which allowed users to decorate their photos and print them to stickers. The company also began to develop games for other platforms again, beginning with Neo-Geo conversions for the PlayStation and Saturn in 1996.

SNK had plenty of reasons to think that the future would be bright. In order to prepare for that future, a number of changes were made in 1997. Neo-Geo AES and CD consoles were discontinued, though game production would continue as the MVS continued to receive support. In the home, SNK would continue to produce arcade conversions, but also original projects for the PlayStation. For arcades, SNK launched an MVS successor: the 3D-capable Hyper Neo-Geo 64, with the driving game *Road's Edge* as its debut release.

> "I WASN'T A BIG FAN OF THE HYPER NEO-GEO 64. I WOULD'VE PREFERRED TO WORK ON THE PLAYSTATION"
>
> Yasuyuki Oda

Unfortunately for SNK, that bright future was a false dawn. Part of the problem was that the Hyper Neo-Geo 64 failed to succeed the Neo-Geo MVS. One key reason for this was that it sacrificed one of the key selling points of its older hardware. The arcade market was shifting away from games with joysticks and buttons, towards dedicated driving and lightgun cabinets. The Hyper Neo-Geo 64 had to support them, and it did. But the beauty of the MVS was that it was a universal platform, and Hyper Neo-Geo 64 boards weren't – hardware designed to play driving games wouldn't play the fighting games, for example.

However, there were bigger problems than that. "I wasn't a big fan of the Hyper Neo-Geo 64. I would've preferred to work on the PlayStation, it had better specs," says Oda. However, the board wasn't just underpowered – its 3D interpretations of *Samurai Shodown* and *Fatal Fury* failed to achieve the same acclaim as the 2D originals. "This is just my opinion, this isn't an official line from the company, but the people who worked on the Hyper Neo-Geo 64 weren't the same people who worked on the original Neo-Geo. I think that was the main problem." Hyper Neo-Geo 64 game production never overtook MVS production, and the board saw its final release less than two years after its debut. This left SNK in an awkward situation, reliant on the aged MVS hardware, and without the resources to attempt a second successor.

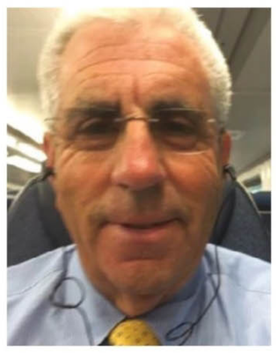
One area in which SNK could still leverage its expertise in creating 2D games was the handheld market, and it developed the Neo-Geo Pocket for introduction in 1998. However, the console, a black

» It doesn't have a vast library of games, but the NGPC does have some cracking titles.

and white handheld, launched just as Nintendo finally moved the Game Boy line into colour. Early sales were brisk, but the console would never leave Japan – the rest of the world would receive its successor. "In 1998 I met with John Barone who showed me a prototype of the Neo-Geo Pocket Color," says Ben Herman, who joined SNK America in 1999 as vice president of sales and marketing. "The opportunity to set up sales and to sell the product with its great titles was too great of an opportunity to pass up. And a salary too!"

The Neo-Geo Pocket Color was a serious attempt to gain a foothold in the market, with wide distribution and visible marketing. When the console arrived in 1999, it was cheaper than the Game Boy Color, offered better visuals and similar battery life. Versions of its arcade classics including *King Of Fighters*, *Metal Slug* and *Samurai Shodown* were all made available within the first year. What's more, SNK established partnerships to bring *Pac-Man*, *Sonic The Hedgehog* and *Puzzle Bobble* to the platform, although it did have to develop some of these internally. By E3 2000, the Neo-Geo Pocket Color had claimed a two per cent share of the North American handheld market – a small percentage, but it represented an audience that was able to make the operation profitable. "With third-party support, we could have hit three per cent in three years. It's all about the games," says Ben.

That opportunity would never come, as SNK was in trouble. In January 2000, pachinko manufacturer Aruze purchased SNK and absorbed it as a subsidiary. By April, the company employed 185 fewer people than it had a year prior, and in June the company withdrew the Neo-Geo Pocket Color from non-Japanese markets. Boxes and manuals were pulped, and cartridges were intended for reuse in the Japanese market. This wouldn't come to pass and most stock wound up back in the wild via liquidation.



» Ben Herman spent two spells at SNK in the USA between 1999 and 2008

SNK enjoyed a high profile in 2000 thanks to its crossover projects with Capcom, which saw both companies produce great games. But as its characters fought for supremacy in fighting games and trading card games, SNK was fighting to survive. "Aruze bankrupted SNK," opines Ben, and it's certainly true that the company went into rapid decline under its ownership. Arcade game production diminished to the point that *The King Of Fighters 2001* was contracted out to external developers, and in Japan the Neo-Geo Pocket Color turned into an outlet for Aruze-branded pachislot games. In October 2001, SNK went bankrupt. However, the SNK story was far from over.

"Playmore was a brilliant move. SNK overcame the bankruptcy situation in court," says Ben. SNK founder Eikichi Kawasaki had seen the bankruptcy coming, and established a holding company in August 2001. The first step to overcoming the collapse of the original company was purchasing SNK's properties, allowing the company to resume production of Neo-Geo arcade games. These still had to be developed externally – Playmore worked ▶

» *Samurai Shodown VI* was one of several games that SNK released on Atomiswave hardware.

NEO-GEO WORLD TOUR

A guide to global SNK hotspots

01 OSAKA, JAPAN

■ The home city of SNK, and a frequent background location in the *King Of Fighters* series. The company has had a number of offices in the area over the years.

02 TSUKUBA, JAPAN

■ The first Neo-Geo World location was opened here in December 1995. This indoor theme park offered a variety of attractions including Q-Zar laser tag, Drift King cart racing and a horror attraction called The Walk. Additionally, you could enjoy a game of bowling, karaoke, games and a variety of cafes, and there was even a Tsutaya video rental shop.

03 TOKYO, JAPAN

■ The second Neo-Geo World opened here in March 1999. The rides at this indoor theme park included the car chase simulation New York Getaway, the shooting adventure Agent Metal and a hostage rescue walking attraction called No Fate. The company has also had local offices here at various points in time.

04 TORRANCE, CA, USA

■ SNK's first American office opened here on Kashiwa Street in the early Eighties. The company moved back to an office on Earl Street in the early Nineties.

05 SUNNYVALE, CA, USA

■ When SNK formally established its American subsidiary in 1986, its first office was in Sobrante Way.

06 SAN JOSE, CA, USA

■ SNK returned to the Bay Area in 1997, relocating to Great Oaks Boulevard in San Jose.

07 CYPRESS, CA, USA

■ SNK NeoGeo USA Corporation, the arcade distribution arm of SNK in the late MVS years, was located here.

08 WALL, NJ, USA

■ SNK operated out of a very small office during the Playmore years. Established in 2003, this was far from SNK's traditional California locations.

09 KOWLOON, HONG KONG

■ 1992 saw the establishment of SNK Asia, which kept the same offices up until the branch was dissolved following SNK's bankruptcy. SNK Asia was re-established here in 2015.

10 SÃO PAULO, BRAZIL

■ SNK's first branch in South America was established in 1993, and the MVS was very popular here. Some of the Neo-Geo World locations it opened still exist, albeit under different companies.

11 LONDON, UK

■ SNK Europe was established here in 1994, initially occupying an office in Albemarle Street before moving to Regent's Park Road in Finchley in 1996.

12 SINGAPORE
13 DUBAI, UAE

■ Other offices including SNK Singapore and SNK Middle East operated from these locations, but both subsidiaries were closed by 1999.

14 OSAKA, JAPAN
15 NAGAKUTE, JAPAN
16 NARA, JAPAN
17 KATO, JAPAN

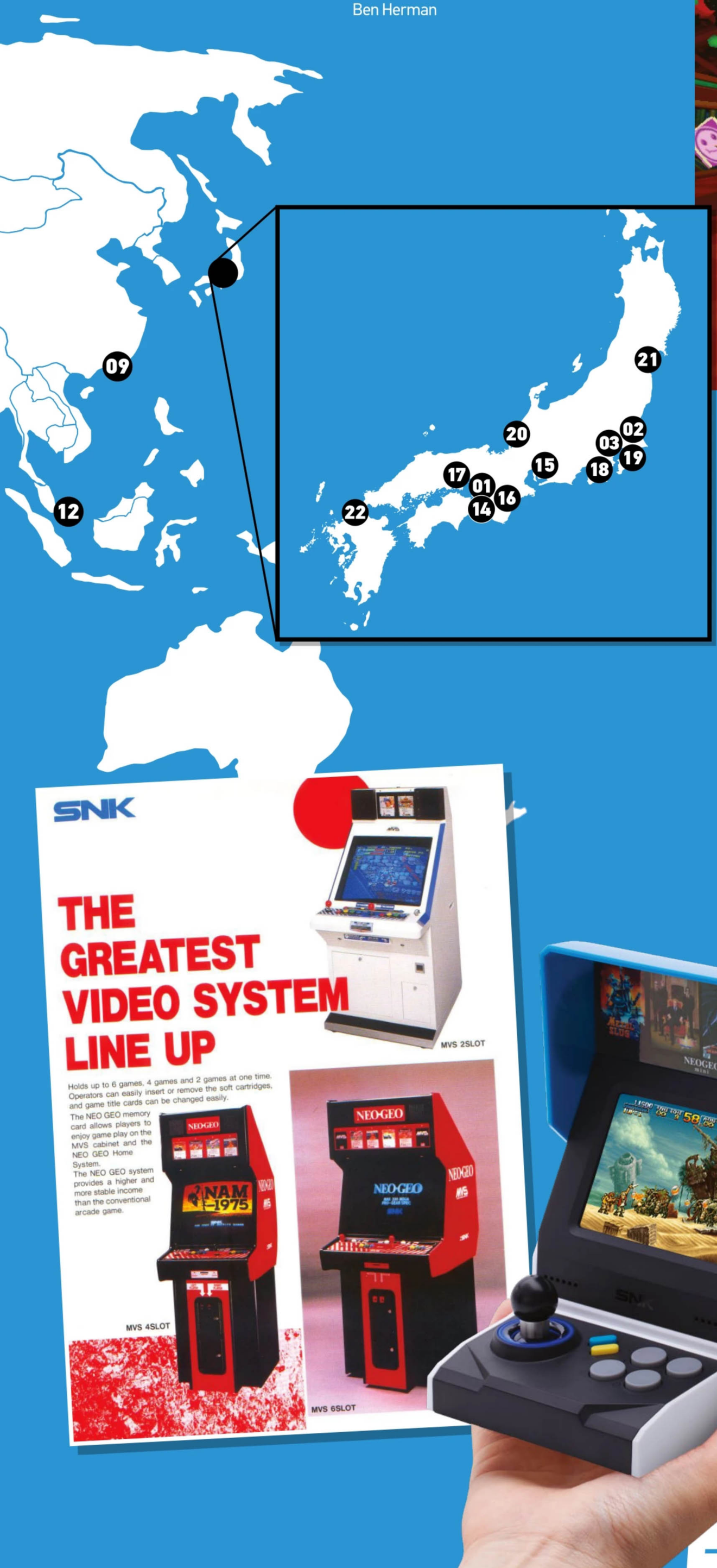
■ These cities all hosted Neo-Geo Land arcades. These typically offered a mixture of games, karaoke and pool, although smaller locations had fewer offerings. SNK held events at these arcades, the most popular of which were the location tests of new arcade games. Osaka was lucky enough to have two, one of which remained open under Sun Amusements until 2004 – you can see it in the background of *King Of Fighters* games often.

18 YOKOHAMA, JAPAN
19 CHIBA, JAPAN
20 FUKUI, JAPAN
21 NATORI, JAPAN
22 FUKUOKA, JAPAN

■ Each of these cities had a Neo-Geo Bowl facility, offering bowling, games, karaoke, pool and cafe facilities. Sun Amusements kept the large out-of-town facilities in Chiba and Natori running for a few years after SNK's 2001 bankruptcy.

"I HAD MORE AUTHORITY TO MAKE SNK STRONG AGAIN IN THE USA"

Ben Herman



» *Cool Cool Tune* was a sequel to the Neo-Geo Pocket's *Cool Cool Jam*.

▶ with Eolith on *The King Of Fighters 2002* and had Mega Enterprise develop *Metal Slug 4*. But in 2003, Playmore was able to sue Aruze. The former SNK owner continued to use the SNK properties in spite of the rights having been sold. Playmore won the case and was awarded 5.64 billion yen in damages.

With its security assured by this judgement, Playmore pressed ahead with a full-on revival by regaining the rights to the SNK name and rebranding as SNK Playmore. "I received a phone call and was asked to come to SNK HQ in Osaka. I did not know why and was offered the position as President to reopen USA HQ. It was an honour.," recalls Ben. "I had more authority to make SNK strong again in the USA." The American operation at this time was based in Wall, New Jersey and had a tiny staff of just five people. How does a company run with so few people? "I outsourced everything from warehousing to sales reps, which was very efficient," replies Ben.

» The Neo-Geo Mini has just been released and features 40 classic games. Look out for a review in a future issue.

Unfortunately good things can't last forever, and Neo-Geo game production was discontinued in 2004 with the release of *Samurai Shodown V Special*. "What kept it alive was the fans," says Oda. "But there were a lot of Chinese copies of the cartridges, that ended up hurting the system." If you want to know how SNK Playmore felt about that, the plot for 2005's *NeoGeo Battle Coliseum* concerns an evil corporation called WAREZ with the ability to clone powerful fighters. New arcade game development moved to the Dreamcast-based Atomiswave platform, and the company also entered the lucrative pachislot market with a *Metal Slug* machine in 2004.

In the home market, the company continued to convert its arcade games to consoles, although it occasionally ran into problems – in particular with Sony, which wouldn't approve certain games for standalone release in the North American market. "We did combo packs for PS2 to overcome that," remembers Ben, although some games couldn't be combined – most notably *SNK vs Capcom: SVC Chaos*. Ben also remembers problems with the competition. "Xbox was a headache as mid-stream Microsoft started 360 while we were developing for Xbox," he says. The company also experimented with 3D versions of *Metal Slug* and *The King Of Fighters* on the PS2, and published the mobile dating sim series *Days Of* ▶

IN AND OUT

SNK has absorbed a number of companies over the years, others have split off from it, and some even went full circle

IN ADK

■ Alpha Denshi was a prolific developer for all SNK hardware, producing games such as *Twinkle Star Sprites*, *Beast Busters: Second Nightmare* and *Crush Roller*. The company closed in 2003 and its properties were bought by SNK.

IN NAZCA CORPORATION

■ This group of former Irem staff only had its logo on two games – but those two were *Neo Turf Masters* and *Metal Slug*, two of the very best Neo-Geo games. SNK wisely folded the team into its own ranks before long.

OUT & IN BREZZASOFT

■ Formed during SNK's troubles in 2000, Brezzasoft launched its own cartridge-based arcade board and was credited on games including *The King Of Fighters 2001*. It was purchased by Playmore not long after formation in 2002.

OUT & IN SUN AMUSEMENT

■ This company took over Neo-Geo Land and Bowl operations following SNK's 2001 bankruptcy, as well as distribution of Neo-Geo MVS and AES games. It was purchased by Playmore in 2003.

OUT DIMPS

■ Takashi Nishiyama and Hiroshi Matsumoto formed this company in the run-up to SNK's 2001 bankruptcy. It has been a prolific developer, working on games including the *Sonic Advance* series and *Street Fighter V*.

OUT NOISE FACTORY

■ Former SNK and Atlus designer Keiko Ijuu founded this developer, which worked closely with SNK for many years on games including *Sengoku 3*, *Metal Slug* games from *Metal Slug 4* onwards and *The King Of Fighters Neowave*.

» *King Of Fighters XIV* is an impressive return to form and features nearly 60 playable characters.

"A LOT OF KIDS PLAYED THESE GAMES AT RELEASE, AND MAY STILL HAVE MEMORIES ABOUT THEM SOMEWHERE IN THEIR HEART"

Hiroko Yokoyama

» *Metal Slug* continues to be a strong franchise for SNK that's appeared throughout its history.

▶ *Memories* featuring its popular characters. As the generation continued, the company found success in publishing retro-focused compilations on the PlayStation 2, PSP and Wii.

The next generation proved to be difficult. Though digital distribution enabled SNK Playmore to distribute its back catalogue, the high costs of developing packaged games meant that few were released, and those were usually arcade conversions. Even this was a struggle, as *Samurai Shodown Sen* was poorly received on Xbox 360 and *The King Of Fighters XII* was beautiful but limited in content. Original titles were instead created for the Nintendo DS, including *SNK Vs Capcom: Card Fighters Clash DS* and *Metal Slug 7*. *The King Of Fighters XIII* released in 2010 and would become the company's final original game to launch in arcades first (though it remains active in the market today). It was ported to PS3 and Xbox 360 in 2011.

What followed was a period where SNK focused on pachislot machines and mobile games. That changed in 2015, though. "For quite a while the company had invested itself into pachislot," explains Oda. "The laws changed and it became much more difficult to thrive in this market space, so the leadership decided they wanted to return to console game manufacturing, which is what allowed me and a lot of other former staff to come back." The majority shareholding in SNK Playmore was also acquired by Ledo Millennium for $63.5 million in August of that year.

The first major project under SNK's new focus on games was *The King Of Fighters XIV*, released in 2016. The game shows SNK's current approach to game development – it's for home platforms first, and the first in the main *King Of Fighters* series to go 3D. Both changes have required some adjustment for Oda. "One of the biggest differences is that the volume per game for consoles is much greater. You've got a bunch of different modes that you have to worry about, plus the options menu and things like that," he explains. However, there are some advantages. "Because you don't have to worry about getting players to put in another 100 yen, you can actually lower the difficulty level a bit." Given his animation background, the change of graphical technology has also been a challenge for Oda. "The cool thing about 2D is that

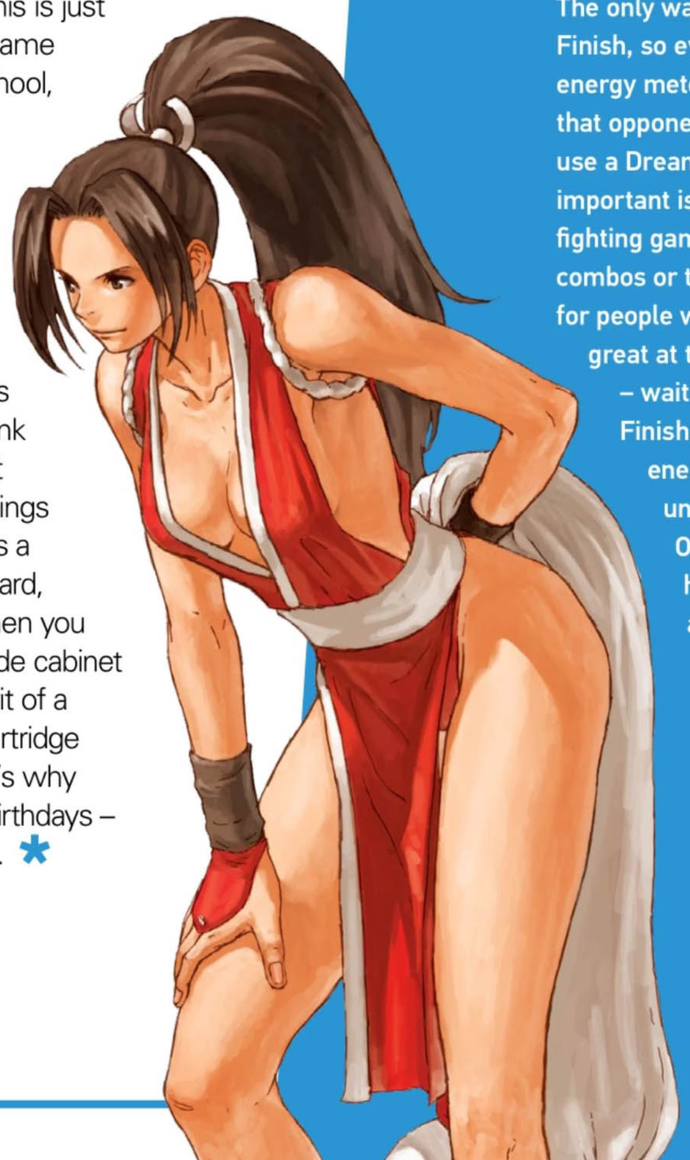
» The latest brawler from SNK features an all-female cast.

depending on how good your artist is, you only need to draw the cool stuff. The way 3D works is that everything has to be rendered. The hard thing with 3D is how you hide the parts that don't necessarily look as cool." The game has been positively received and was followed by *SNK Heroines: Tag Team Frenzy*.

Today, SNK is celebrating its heritage with a number of projects. Its early years are being celebrated in *SNK 40th Anniversary Collection* for Nintendo Switch, and a dedicated mini console has been created for fans of the Neo-Geo era. But what is it about the company and its games that keeps players' interest? "Games made before the Neo-Geo were created at a time where there were plenty of technical restrictions, which led game creators to think a lot about how to make enjoyable games," says Yokoyama. "A lot of kids played these games at release, and may still have memories about them somewhere in their heart." For Yoshino, it's also nostalgia. "I'd say that players probably now over their forties will enjoy games such as *ASO*, *Athena* and *Ikari Warriors* the same way they did when they first played these games three decades ago," he says. Ben agrees, citing "Great retro products, great IPs and great gameplay."

But for Oda, who has the chance to shape SNK's future, we're wondering which parts of its past might be part of his plans. If he could bring some old series back, which ones would he choose? "One is *Ikari Warriors*, and the other is *Athena*," he answers. "But this is just what I'd like to do! These were games that came out when I was in middle school and high school, and I played them a lot." Best not start the rumour mill turning, then: these are not concrete plans. However, the company has announced the return of *Samurai Shodown* for 2019, so it's clear that SNK's past is still a big part of its future.

SNK is many things to many people. Some will associate it with the rotary joysticks of the *Ikari Warriors* era, while others can't think of the company without picturing its sprite art or expensive cartridges. None of these are things that SNK does today, yet the company retains a distinct identity – when you look at Terry Bogard, you know he's the *Fatal Fury* protagonist. When you see that the Neo-Geo Mini replicates an arcade cabinet rather than a console, it's easy to see the spirit of a company that didn't have to produce £150 cartridge games, but did so because it could. And that's why we hope to see SNK celebrate many more birthdays – ultimately, there's not another company like it. ✱



FEARSOME FEMALES

Producer Yasuyuki Oda discusses the design of SNK's latest fighting game, SNK Heroines: Tag Team Frenzy

How did the *SNK Heroines* project get started?
Soon after *The King Of Fighters XIV* was released, we decided to start with a new project with popular female characters from throughout the whole SNK library. That's where this came from.

There was a game on the Neo-Geo Pocket Color with a similar theme, *SNK Gals' Fighters*. Was any inspiration drawn from that for this concept?
Actually, it was kind of an opposite influence. Because we had already made a game like that, we wanted to make sure *SNK Heroines* wasn't just a rehash of what that was, but a complete differentiation and a new game within that concept of using female fighters.

How did the team decide which characters to include in the game?
There were three different categories – popular characters from SNK, characters that we want to make more popular, and what we call the 'special box'.

We're curious, what does the 'special box' entail?
If you've played *The King Of Fighters XIV*, you might know that everyone gets revived at the end of the story. So it was kind of a way to bring back Shermie.

The concept of a tag-team fighting game is familiar to most players, but the Dream Finish system is a new concept. Could you please explain a bit about that for us?
The only way you can win is with a Dream Finish, so even if you get your opponent's energy meter all the way down to zero, that opponent will not be defeated until you use a Dream Finish. The reason that this is important is because rather than a traditional fighting game where you're using many combos or trying to chain things together, it's for people who maybe are not particularly great at that. It's more of a timing thing – waiting to build up your Dream Finish, and then waiting to get your enemy down to low energy, and then unleashing it at the right moment. Or maybe your playable character has used all of their stamina gauge, and so you switch out to your character in reserve who has the Dream Finish, and do it right then.

You mentioned that the Dream Finish system was tailored towards gamers who aren't so good at pulling off combos. Is it fair to say that you're aiming *SNK Heroines* towards an audience that is less familiar with fighting games?
Yes, the idea is to be as broad as possible with who is able to play this game. Of course there's practice involved, you still have to practice and learn how to play the game well, but it's very welcoming for everyone.

***King Of Fighters XIV* had features to help newcomers, such as autocombos, and *SNK Heroines* is geared towards players who are new to fighting games. How important is it to get new players invested in the genre?**
We still plan on making games for the more hardcore audience, but especially at demo events or games shows, most people are just going to grab the controller and start pounding the buttons. Being able to have something cool happen when they do that is pretty important to keeping them interested in the game overall, so that's part of our strategy to increase the amount of fans.

What modes are included?
Story mode, versus mode, survival mode, training mode, online mode – and there's an option within the online mode to watch other players and bet points on their battles.

What is the purpose of the points that you accrue?
Those are used for customisation – there's lots of costumes, lots of accessories, you can buy different backgrounds and take screenshots using them. The in-game currency is the way to get all this stuff, the betting is just a quick way to get it so you can unlock more things that you'd like to use.

SNK has been giving ongoing support to its competitive games. Is that something you plan to do with *SNK Heroines*?
In addition to the Neo-Geo World Tour, we also offer support to esports communities, and we plan to continue doing that with *SNK Heroines* as well as *The King Of Fighters XIV*.

Few consoles can claim to have revolutionised videogames in the way that the PlayStation did. Sony's brand power and marketing clout widened the console market demographic and ended the dominance of its traditional games-focused competitors. But it wasn't just a marketplace revolution – the PlayStation was an exceptional piece of technology, coupled with an approach to third-party development that supported a huge range of hit games.

As many of you will know, Sony's decision to enter the console market dates back to its work with Nintendo on the SNES. Sony created the sound chip for the console and then developed the add-on Super Disc CD-ROM format for the system. However, disagreements over CD software licensing caused Nintendo to abandon Sony in favour of Philips. The engineer central to all of this was Ken Kutaragi, who used this incident to convince executives to back his work on a Sony console. Rather than competing with the SNES and other established machines, Sony would eventually develop a 3D-capable console, inspired by the success of *Virtua Fighter* in Japanese arcades. The simple fact that a company of Sony's stature was taking an interest in the console market was a noteworthy development in itself. "It was a big part of us getting started," says Lorne Lanning of Oddworld Inhabitants. "Sony was a company that really made quality hardware, and it was an entertainment company as well – it owned movie studios and record labels. Sega and Nintendo weren't that. The idea that a wide spectrum multimedia entertainment company was stepping in was really interesting, and it was happening right at that time when the industry was projected to have tremendous growth."

First impressions count, and PlayStation developers remember the impact that the system made when they first laid eyes on it. "It was in Las Vegas at CES; Ken Kutaragi was personally doing developer PR for the new console," says Mark Cerny, then president of Universal Studios' videogames division. "He had a nifty demo of a walking dinosaur, and it was absolutely clear that this was the beginning of something very special indeed." Mark wasn't the only person to be

*"IT WAS ABSOLUTELY CLEAR THAT THIS WAS THE BEGINNING OF **SOMETHING VERY SPECIAL INDEED...**"* MARK CERNY

INSIDE THE PlayStation

*PLAYERS MIGHT HAVE LOVED SONY'S CONSOLE DEBUT, BUT THANKS TO ITS **REVOLUTIONARY HARDWARE DESIGN**, DEVELOPERS LOVED IT JUST AS MUCH. WE SPEAK TO PLAYSTATION DEVELOPERS TO FIND OUT WHAT MADE IT SUCH A JOY TO WORK WITH*

Words by Nick Thorpe

tion

PlayStation

YOU'VE BEEN **WIREFRAMED**

The PlayStation's graphical hardware was a major step change from previous generations – here's how 2D and 3D scenes were constructed

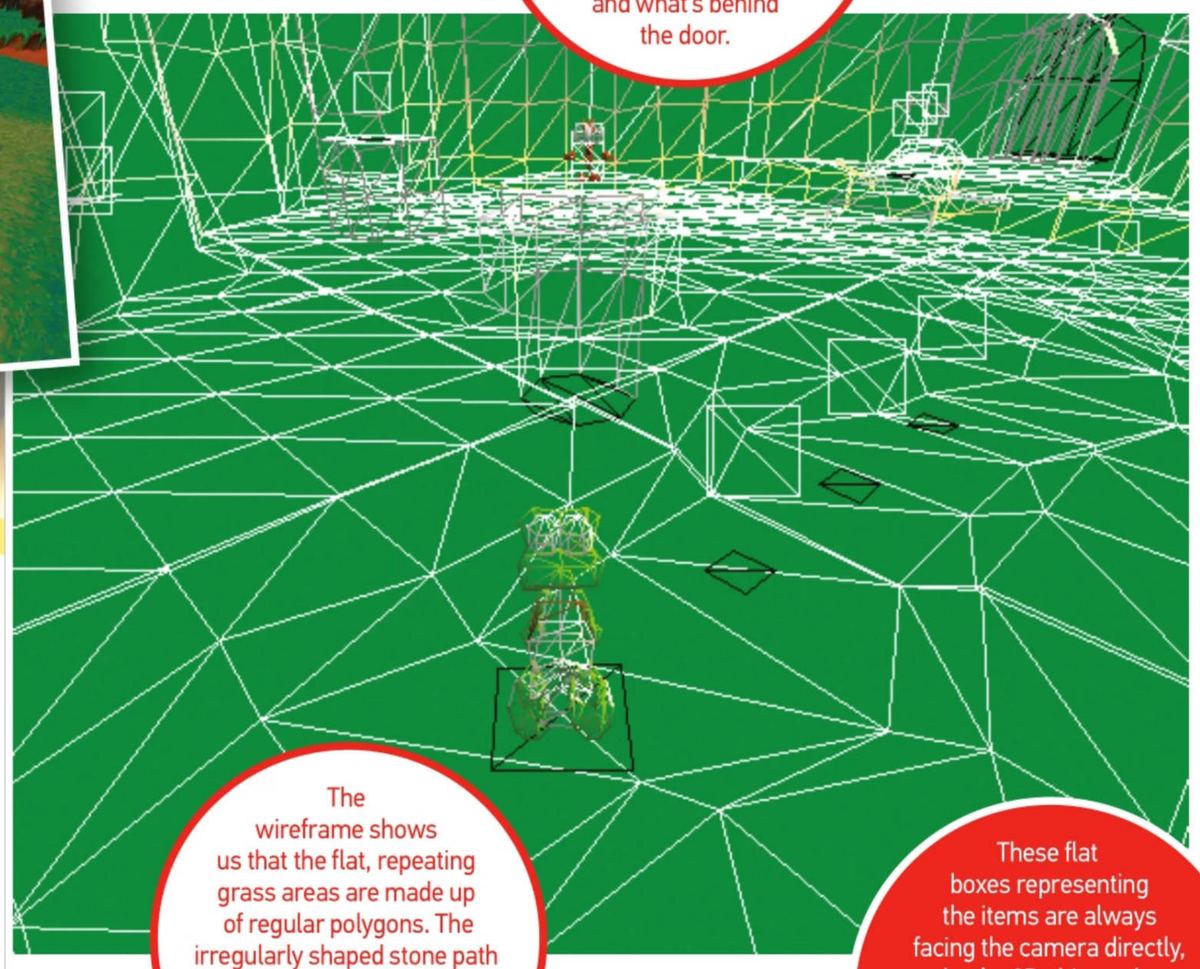
Here's a scene from *Croc: Legend Of The Gobbos*. Key elements to focus on in this scene are Croc, the collectable items, the path on the ground and the objects further in the distance.

Shading and colour are used to provide extra environmental detail in the background, around the lava and on the crate, walls and well. Gouraud shading is utilised, giving a smoother appearance than flat shading.

The huge white surfaces here show how heavily texture mapping is used to add environmental detail. Even in arcades, this was a new form of technology – the first textured 3D games had only appeared in 1993.

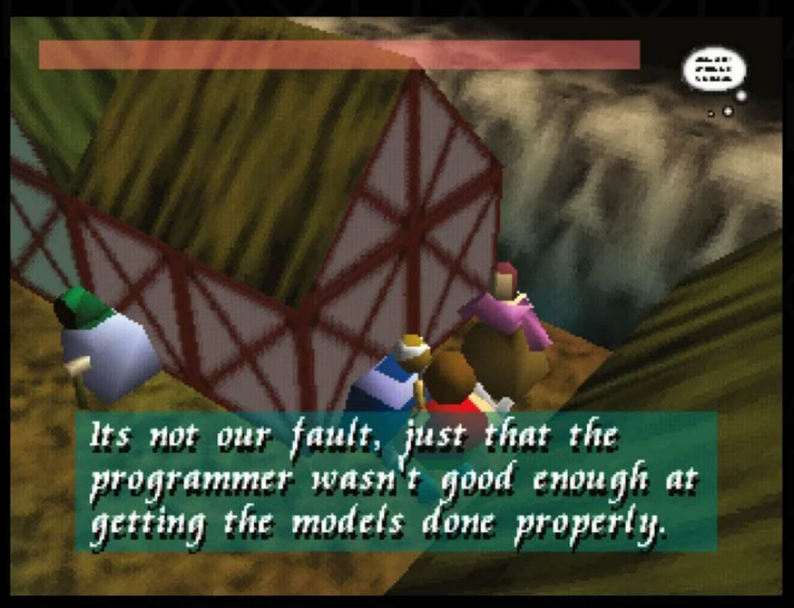
Croc himself is largely intact, as his cartoonish appearance allows for most of his detail to be conveyed in colour alone. However, his backpack and tail are missing their details, which were added with textures.

Since the PlayStation GPU doesn't have any hidden surface removal functions, the console actually still draws polygons that the player can't see. Note that you can see the internals of the well and what's behind the door.



The wireframe shows us that the flat, repeating grass areas are made up of regular polygons. The irregularly shaped stone path is achieved by distorting the polygons, altering the path without needing extra textures.

These flat boxes representing the items are always facing the camera directly, as they're 2D objects drawn in a 3D space. As each object is represented with minimal polygon usage, this approach allows extra detail elsewhere.



» As well as providing amusing bonus games for demo discs, Net Yaroze launched a fair few coding careers.

» Even subtle lighting can add a lot to scenery, as seen on the fighters in *Tekken 3*'s expressive theme park stage.

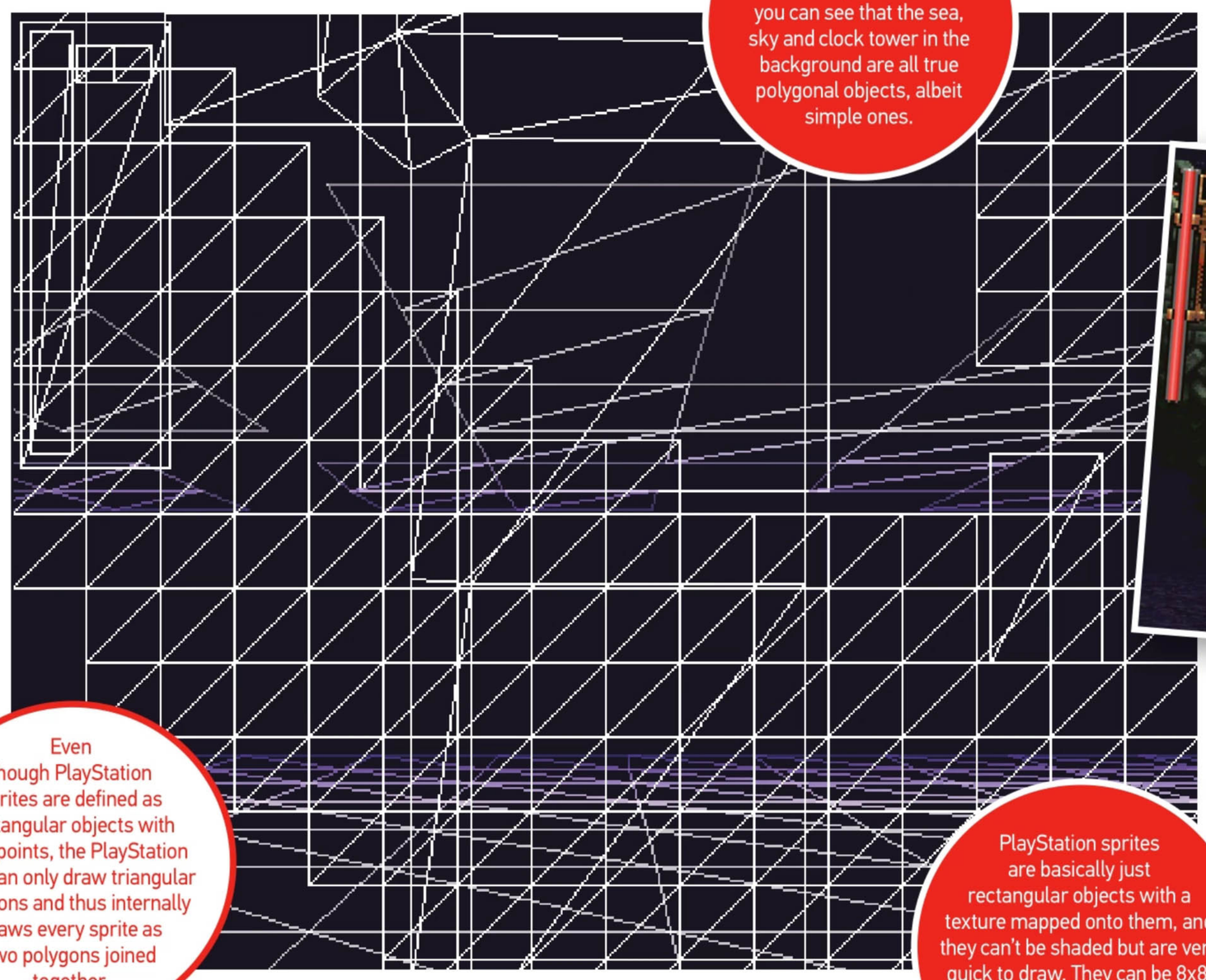
MARK **CERNY**

Lead architect, PlayStation 4

▶ impressed by this particular demo. "It would have been about 1994 and I received a phone call from Phil Harrison, someone that I had commissioned to write some game designs in the late Eighties," recalls Charles Cecil of Revolution Software. "Phil told me that he was working for Sony and they were planning to launch a new console, codenamed PSX – would I like to come down to their offices to take a look? Of course, I jumped at the opportunity. A few days later they showed a demo of a dinosaur moving in 3D and we were absolutely blown away."

"I first saw the PSX at a Sony developer conference prior to launch in 1995, they had a few demos running – and *Ridge Racer*," remembers Mike Dailly, then working at DMA Design. "Being a huge *Ridge Racer* fan (I even have the arcade machine), I was blown away that it was virtually identical to the arcade version, which only appeared a year or so before! They also had a T-rex demo controllable via a gamepad which also looked very cool. Such a small machine, so much power – it was an instant hit with me." The famous dinosaur demo was an impressive display of a detailed character that could be controlled in real time, but *Ridge Racer* is arguably the more important indicator of the kind of leap PlayStation offered. The arcade game, released in October 1993, was revolutionary in its own right thanks to its introduction of texture-mapped polygons. That the PlayStation came close to an arcade game running on considerably more costly hardware, just one year and two months later, was a minor miracle.

This was all the more impressive considering what other 3D-capable consoles offered. "At the time, the only remotely comparable hardware was the 3DO, but that was just too expensive from the get-go and outside of PCs with the newly fangled graphics cards the PlayStation was a game changer," says Paul Hughes, who worked at EA and Warthog during the PlayStation years. "The Sega Saturn was probably its closest rival but was a real bugger to program – you really had to get deep down and dirty to get close to PlayStation." This assessment is confirmed by Chris Roberts, who worked on Sega's console prior to moving



It's easy to mix 2D and 3D elements on the PlayStation, and you can see that the sea, sky and clock tower in the background are all true polygonal objects, albeit simple ones.

Even though PlayStation sprites are defined as rectangular objects with four points, the PlayStation GPU can only draw triangular polygons and thus internally draws every sprite as two polygons joined together.

PlayStation sprites are basically just rectangular objects with a texture mapped onto them, and they can't be shaded but are very quick to draw. They can be 8x8, 16x16 like the foreground tiles or free width and height like Richter.

In this scene from *Castlevania: Symphony Of The Night*, the elements of the scene that warrant attention are the sea and sky, the clock tower, the 2D foreground and Richter Belmont.

"PLAYSTATION, LIKE ALL CONSOLES TO COME, HAD ITS OWN IDIOSYNCRASIES TO DEAL WITH" PAUL HUGHES

to Sony's Liverpool studio. "First time I saw [the] PlayStation was while working at Silicon Dreams in Banbury – I'd been hired to work on Sega Saturn and was pretty jealous of the guys working on PlayStation," remembers the coder. "The Saturn was technically challenging, but still cool in its own way, but when I got chance to take a console home for the weekend I didn't choose the Saturn."

The key to all of this was the PlayStation's custom graphical hardware. The Geometry Transformation Engine was a dedicated 3D graphics coprocessor, residing within the system's CPU. "The big draw for the PlayStation was the really quick turnaround to get something up on screen and the raw 3D performance compared to the Saturn and even PC games of the time," explains Chris. "This was the era of *Quake* and *Descent* and very early PC GPUs (along with the primitive versions of DirectX) so most developers were still having to write custom triangle renderers on fairly expensive PCs to see any kind of useful performance. We had folks in the office running *Quake* with a huge border to try and get the framerate acceptable."

LORNE **LANNING**
Cofounder, Oddworld Inhabitants

"Unlike other machines of its time, it was a dedicated triangle renderer, using a constant delta texturing system which allowed a high throughput of polygons," explains Mike. "Although it gave a slightly coarser texture mapping, it didn't matter once things were moving. Other systems like the Sega Saturn and 3DO just couldn't keep up, it was an amazing piece of work." In fact, the PlayStation didn't just beat its counterparts. Though it didn't have quite the same raw polygon-pushing power of the likes of the Model 2 arcade board, it was easier to work with in other ways. For example, the PlayStation offered full colour texture mapping, where the Model 2 board could only modify coloured polygons with greyscale textures.

"It was also able to blend textures and featured true semi transparency which even Sega's arcade boards couldn't do at the time," notes Martin Edmondson, formerly of Reflections. "It was truly cutting edge."

"PlayStation, like all consoles to come, had its own idiosyncrasies to deal with in order to get the best performance," Paul

» The powerful 3D instructions used to create *Crash Bandicoot*'s lush scenery were initially kept from PlayStation developers.

» Lorne feels that *Tomb Raider* was the most visually impressive of the PlayStation's early real-time 3D games.

"THE REAL STEP CHANGE HERE WAS THE SWITCH FROM ASSEMBLER TO C" CHRIS ROBERTS

adds. "Nonetheless it was still a boon to be able to offload texturing, lighting and blending to the GTE and video to the MDEC processor." For David Perryman of Attention To Detail, these idiosyncrasies had to be corrected by hand when working on *Rollcage*. "I spent time stitching together polygons. The engine we'd developed was unbelievably fast, but the nature of it meant that a lot of design work was needed to ensure the polygon meshes transitioned well between profiles. Otherwise there was a tendency for it to split as it switched between levels of detail. This was visible to the player as holes appearing ahead."

Though the PlayStation's graphics hardware was revolutionary, it wasn't perfect. "The lack of perspective correction and Z-buffering on the textured polygons (something which the later Nintendo 64 featured in hardware) could make things visually very ugly with fighting polygons and warping textures," says Martin, whose observation was common amongst our interviewees. "Solving it in software was possible, to a certain extent, but [it was] extremely polygon expensive." Chris Roberts adds to that the unusual graphical memory setup, which was split into texture pages. "The VRAM was also a bit of a chore – when developing the original *WipEout*, the team had opted to write a visual VRAM editor so that the artists could hand-place textures and colour palettes," he explains. "The tool was nice enough but it was a unnecessary job for the artists so it wasn't long before we knocked together an automatic allocator."

Of course, the PlayStation still offered 2D games, and even some devs working with 3D graphics chose to exploit the hardware's 2D capabilities. The primary reason for this was that despite the PlayStation's strengths, its real-time rendering capabilities paled in comparison to what was possible in the VFX industry. "We had extensive experience of 3D computer graphics. What I knew, due to polygonal resolution, texture mapping, memory footprint and all that stuff was that overall the 3D quality of the PlayStation in the scheme of computer graphics would be pretty lame looking," says Lorne, and he'd know – both he and Oddworld Inhabitants cofounder Sherry McKenna had worked on visual effects in the film industry. "To the gamer, it was a novelty to have 3D. On the PlayStation, the first *Tomb Raider* was the best usage of extremely limited computer graphics at the time. They really did a lot right to get the best image quality you could get in those days."

PAUL **HUGHES**
Cofounder, Warthog Games

However, Lorne and the team at Oddworld Inhabitants wanted to make something that looked good – not just good for a videogame. "For me it was like, 'Our graphics can be much better than the 3D rendering of the day, but it's going to have to be played in 2D.' When I told my partner that she was like, 'What the hell are you talking about, it's going to be a 2D game? We do 3D graphics,' and I was like, 'Trust me,'" recalls Lorne. Fortunately, the market for such an approach was proven early on in development. "We were in production and already running on *Abe's Oddysee* when *Donkey Kong Country* came out, and it was like, 'Oh, perfect – they just showed us a couple more tricks that we could learn from.' They made the same choice – they said, 'If we prerender the characters and the backgrounds, we'll get that really 3D look but it'll just be being pushed as sprites.' We could prebuild everything in Maya, we could render it out in whatever resolution we wanted, and then we could scale it down to make it fit." Many devs would ultimately use some amount of prerendering for their games, although often this would be mixed with real-time 3D. This

» *Ridge Racer* was an incredible technical feat in 1994 – a cutting-edge arcade game in the home.

» Four years later, Namco improved its shading and texturing, while doubling both the vertical resolution and framerate.

meant real-time 3D elements on top of prerendered backgrounds, as seen in the *Resident Evil* and *Final Fantasy* series, though occasionally games like *Klonoa* used prerendered sprites on real-time 3D backgrounds as well.

Though few other parts of the PlayStation were as revolutionary as its graphics hardware, the rest of the console's design was still driven by smart choices. The MIPS CPU was generally well liked, with Mike commenting that, "I still have the full MIPS ROM I wrote somewhere, and MIPS remains my favourite chip/assembler to this day!" Chris was also a fan. "I was already pretty familiar with 32-bit ARM assembler, so in some ways the MIPS and Hitachi processors in the PlayStation and Saturn were a small step backwards, but both of these were fun processors." However, he does note, "The real step change here was the switch from assembler to C which vastly improved development in general." The sound processor was much like the SNES sound processor developed by Kutaragi. It was capable of generating music from compressed digital samples, but could play 24 channels

» The kinked lines here demonstrate the PlayStation's lack of perspective correction – they should all be straight.

PLAYSTATION WITHOUT PLAYSTATION

How Connectix and Bleem almost liberated your PlayStation games

The pace of technological progress during the late Nineties meant that shortly before the turn of the century, it became possible for sufficiently powerful computers to emulate the PlayStation – and two companies actually released commercial emulators.

The first was Connectix, a big player in the Mac software market which had a major success with its Virtual PC emulation software. The Virtual Game Station was released in 1999 and boasted high compatibility and speed for its time. Sony Computer Entertainment, unhappy with anything that could cause it to lose control of its platform in such a fashion, sued Connectix and won a temporary injunction halting Virtual Game Station sales. However, courts increasingly found that Connectix's behaviour had been legal and in 2000, Sony bought Virtual Game Station and shut it down for good.

The other competitor was bleem!, a company with a flagship product of the same name, which emulated the PlayStation on PCs and used 3D graphics cards to enhance games with higher resolution graphics and texture smoothing. The company also announced bleemcast!, a product which would allow Sega's competing Dreamcast to run PlayStation games. Sony was similarly litigious regarding bleem!, suing for trademark and copyright infringement but losing on both counts, before launching a patent infringement suit that bleem! was unable to financially defend itself from. The company folded in November 2001, by which time it had released discs that enabled *Gran Turismo 2*, *Metal Gear Solid* and *Tekken 3* to run on the Dreamcast.

» This preview image of *Ridge Racer Type 4* shows the enhancements that Bleem offered – sadly, this game's pack never saw a retail release.

» With its unfiltered textures and lower resolution, original PlayStation hardware suffered next to emulators.

> *"WITHOUT THE CD STORAGE, WE WOULD HAVE HAD TO COMPRESS THE ASSETS CONSIDERABLY"* CHARLES CECIL

▶ of audio simultaneously and had 512KB memory, compared to the eight channels and 64KB memory of its predecessor. Though this was of diminished importance due to the ability to play audio from the game CD, it was often used in games where disc space was at a premium.

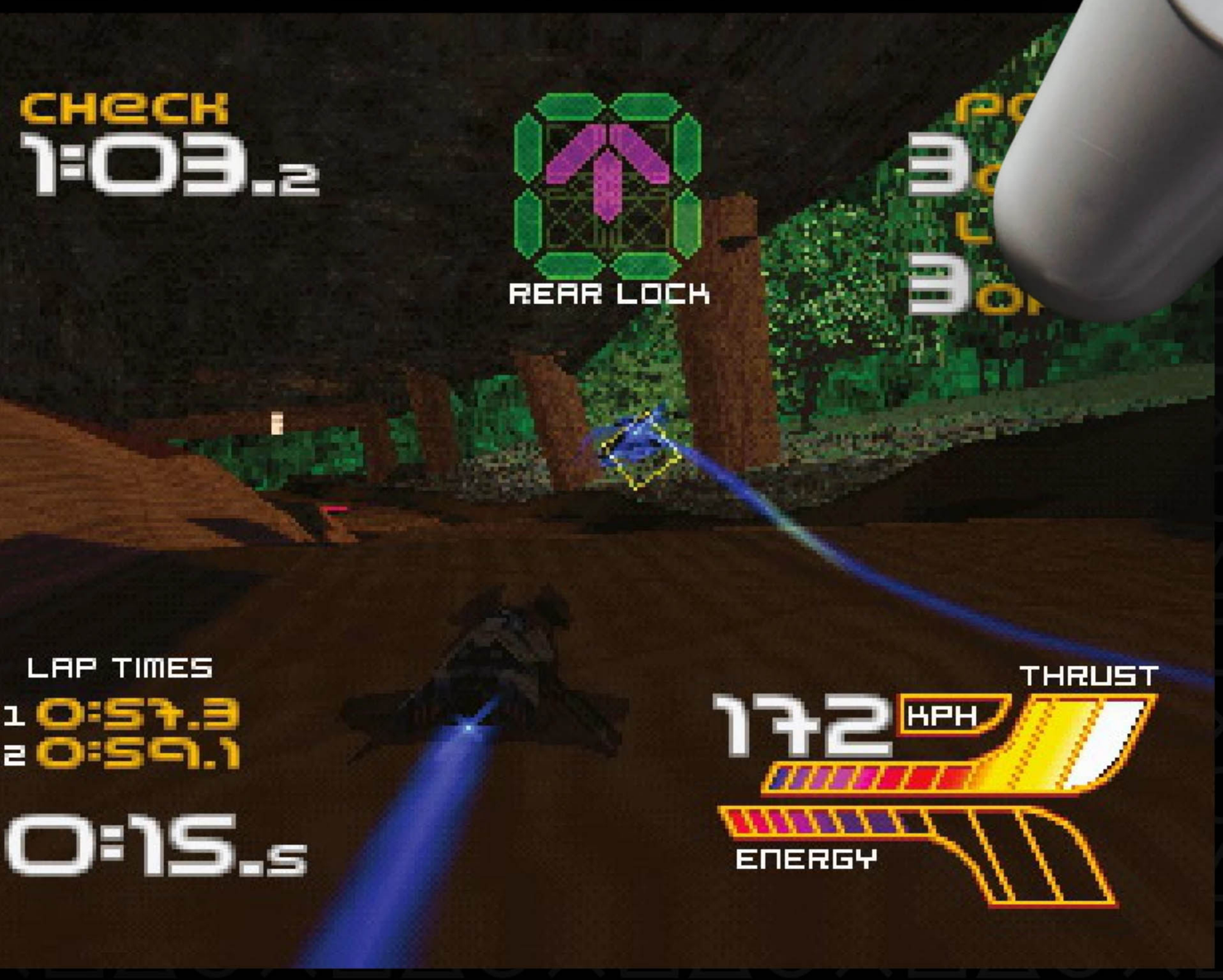
David does point out one area in which the console was severely limited: "Memory constraints were also a challenge, trying to fit everything into what PlayStation gave us. But I think all the constraints honed the design, without them it would have been easier to come up with a less tight design." Mike confirms this, noting, "It could have done with a bit more RAM, but most developers made it work." With 2MB main RAM, 1MB for video and 512KB for sound, the PlayStation was comparable to its primary competitors, the Saturn and N64. However, both of those machines received 4MB RAM expansions during their lifetimes. In both cases the expansions were typically used for graphical improvements with the Saturn typically using the extra RAM for better animation in 2D games, and the N64 using it for greater 3D performance. Only a small minority of games on either platform strictly required the use of these expansions, which ultimately limited their impact – and by not releasing such an upgrade, Sony did avoid fracturing its customer base.

The other main area in which the PlayStation was a leap forward was in its adoption of CD-ROM

CHARLES **CECIL**
Cofounder, Revolution Software

technology. The benefits of CD-ROM for games had long been known, as the medium offered huge capacity and cheap production costs as compared to cartridges. For Sony, it was an obvious move – not only had it codeveloped the CD with Philips, it was already ordering millions of them through its music division. However, it wasn't a move without risk. Though console manufacturers had been experimenting with CD-ROM add-ons since 1988 and most manufacturers of next-generation consoles had adopted it, it was an expensive technology that drove up the initial hardware cost. What's more, the industry giant Nintendo had chosen to stick with ROM cartridges, citing their speed, durability and resistance to piracy.

Choosing CD-ROM would prove fruitful for both Sony and its roster of developers. For Lorne, CD-ROM was essential to the creation of the *Oddworld* games. "That was part of the reason for choosing to get into games at that time, just that games were going to CD-ROM storage devices. When CD-ROM came out, it was like, 'Ooh, well that'll hold enough memory that you can have 500 screens for the game, 1,000 frames of animation for each character,' you weren't looking at the limitations of a cartridge." *Broken Sword* was another game that reaped the benefits of CD-ROM. "The CD storage was very important because the game had large assets – multilayered backgrounds, huge amounts of sprite animation, and hours of music and speech. Without the CD storage, we would have had to compress the assets considerably which would have compromised the gameplay experience," recalls Charles, though he's also frank about the disadvantages of the medium. "Of course, CD



» According to Chris, the processing time needed for *WipEout 2097*'s *Akira*-inspired engine trails was gained by avoiding Gouraud shading.

» CD-ROM storage allowed for the detailed backgrounds, speech and video sequences of games like *Broken Sword*.

players in those days were slow at reading data, so load times were quite high and videos really did need to be compressed hard in order to stream in real time."

There's no doubt that CD-ROM helped Sony to win victory in this generation. Developers preferred it, most famously SquareSoft, which felt that the N64's cartridges didn't offer the capacity necessary to realise its vision for *Final Fantasy VII*. The cheap production costs also allowed for tactical discounting, such as when Sony introduced the Platinum range of games – older hit games at £19.99 – at the same time as the N64 hit the market. However, CD-ROM was also one of PlayStation's weaknesses. Part of the problem was that it caused hardware reliability issues. The drive lens travelled along plastic rails in early models, which would be worn away by friction until the lens began to dip, causing loading problems (often first experienced as stuttering FMV). The other problem was that as CD copiers became commonplace in the late Nineties, piracy became such a problem that the standard copy protection was no longer enough, and developers had to include extra anti-piracy measures in their games.

With such exciting hardware, it's unsurprising that developers wanted to work on the PlayStation. In the early days, that meant competition. "Reflections had a long publishing history with Psygnosis (who had recently been purchased by Sony) through our previous catalogue of games. But even though the dev kits were on the ground we still needed a compelling design to secure one for ourselves. In fact, we were in stiff competition for those early kits with quite a few other studios, and Sony's internal dev teams too of course." explains Martin, who had one of the few UK-developed games ready for the console's European launch. "I remember showing the *Destruction Derby* concept to them and they were thankfully excited so we bagged a dev kit soon after that. I remember those earliest dev kits were almost [like a]photocopier in size, but were soon replaced with more convenient units the size of an old VHS recorder."

DAVID **PERRYMAN**

Track designer, Rollcage; *producer, Attention To Detail*

For all the revolutionary hardware, perhaps the biggest step forward was Sony's treatment of third-party developers, and this is what allowed *Destruction Derby* to hit a tight deadline. "It may have been considered 'early' by some but it still only left us with seven or eight months until the machine's European launch so everything was extremely tight," Martin continues. "We worked fast and such was the well-designed hardware and libraries that within a day we had a textured polygon spinning around on the screen, and not even a week later a circular track with a demo car flying around it. Then the hard work began on the physics for the crashes, AI and so on."

Martin isn't the only one who enjoyed Sony's approach. "Up until that point you got generally got a fat document with a couple of tersely documented examples and then it was pretty much over to you until you submitted your project," explains Paul. "Unless you were a serious player in the industry with connections right to the top of the totem, developer support was pretty basic at best. Sony really led the revolution; they realised that helping (and listening to) the developers benefitted their platform." In fact, Sony wasn't just open to commercial developers. While it certainly wasn't cheap, the Net Yaroze scheme ▶

» David's time stitching polygons was well spent, as *Rollcage*'s tracks look very solid by PlayStation standards.

NEVER OVERESTIMATE THE SIZE OF PLAYSTATION

The PlayStation Classic is now available – here are our thoughts on the mini console

We've been fascinated by Sony's first venture into the world of plug-and-play retro consoles ever since its initial announcement, as there's a huge potential market for the system, but the original hardware presents some unique challenges.

As a miniature representation of the PlayStation, the PlayStation Classic is very accurate. The details of the original are carried across with great care – everything is sized proportionately, and even the rarely-used expansion port is represented. In fact, the text-based buttons suggest the system is fashioned after the earliest models of the system. The controllers are authentic recreations of the PlayStation's original digital controller – apart from their USB connectors, they're externally indistinguishable both in look and feel. The cables are of a good length, too. The boot screen includes the familiar booming bass of the original machine's boot screen, and the system menu is fashioned after the original memory card/CD player interface (though it's the colourful Japanese and later export version, not the original grey export version).

The 20 games included in the collection makes for a pretty eclectic mix. There's solid representation of the key third-party franchises from the PlayStation years, some of the better first-party games and then some surprise inclusions – most of which are welcome, such as *Mr Driller* and *Wild Arms*. We're surprised that some of the games were chosen over their superior sequels (*Destruction Derby* and *Twisted Metal* in particular), but almost every game included is at least solid – the only game we'd really single out as a bit of a stinker is *Battle Arena Toshinden*. There are some high-profile omissions, though. It's no surprise not to see *Gran Turismo*, *WipEout* or *Tony Hawk's Pro Skater*, all of which would have been licensing nightmares, and we'd guess that *Crash* and *Spyro* didn't make the cut due to the availability of their remasters. However, the lack of any *Tomb Raider* representation is a surprise, and we'd expected *PaRappa The Rapper,* too.

The PlayStation Classic includes a virtual memory card for each game in the library, meaning that you won't have to worry about memory-hungry games like *Final Fantasy VII* crowding out your other saves. Each game can also store one suspend point, which is created by hitting the reset button. The system outputs at 720p over HDMI, and each game is presented in its original 4:3 ratio with what appears to be a simple bilinear filter, providing a soft image. There are no display options, so common CRT-style effects such as scanlines are not available, nor are enhancements such as the texture smoothing offered on PS2. It appears that there's a mixture of PAL and NTSC versions included, as some of the games showed Sony Computer Entertainment Europe splash screens upon start-up, and others showed Sony Computer Entertainment America.

Unfortunately, while Sony's console certainly had potential, a number of baffling design choices and its disappointing roster of games meant it didn't leave a good impression on gamers. The good news is that you can now pick it up well below its £90 asking price.

allowed hobbyist coders to make their own PlayStation games. Many of these appeared on the demo discs of *Official PlayStation Magazine*, and launched the careers of a number of developers.

Still, not everything was wholly transparent, as Sony initially seemed reluctant to let developers fully exploit the PlayStation's graphics hardware. "The powerful 3D math engine was hidden behind a library, which meant that anyone serious about creating virtual worlds needed to have the real documentation leaked to them," says Mark. "Luckily that happened rather early on in the development of *Crash Bandicoot*, and we were able to create some amazing environments and characters!" The same thing happened to Chris and his team in Liverpool. "I remember a Sony conference in London that happened while we were working on *WipEout 2097*, and one of the presenters was talking about the COP2 instructions (responsible for 3D vector maths) and how you shouldn't call them directly. I recall shifting uncomfortably in my seat since we'd been using these pretty much non-stop from the outset," he confirms. "I've no idea why this restriction was there or where our COP2 instruction list came from, but Sony did eventually make these public."

What's more, eventually the machine was so well documented that it became possible to get by without the help of Sony. "By the time I got to actually code a game on the PSX – and not just mess with a dev kit, I had moved to Visual Sciences and it had been out for a while, so you didn't really need Sony for tech support. I got vast amounts of info from the net," recalls Mike. This enabled him to take a very creative approach to increasing the amount of development hardware available to his colleagues. "I reprogrammed an Action Replay into a dev kit, and even did a snapshot cart for it. I was able to give all the artists 'dev kits' via a £10 cart so they could see their art on the TV, and even QA were able to get one and used it when the

» The reflection effect in *Gran Turismo* was impossible even on contemporary arcade hardware.

» The PlayStation's ease of use and wide install base made experimental games such as *PaRappa The Rapper* possible.

» The impressive music in the PlayStation's *Final Fantasy* games was actually generated via the sound chip to save CD space.

"THIS WASN'T JUST MOVING TO A NEW PLATFORM, THIS WAS THE MOVE FROM 2D TO 3D" MARTIN EDMONDSON

MARTIN **EDMONDSON**
Cofounder, Reflections

game crashed, downloading the whole program onto the PC so a coder could then upload it and find out where it crashed. It was great fun!"

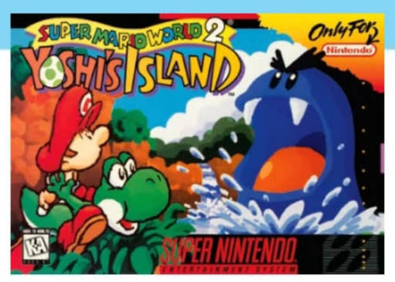
Of course, making the most of all of this new hardware meant that game development changed fundamentally, with more manpower required to get things done. "In the very earliest days our team size only increased from four (Commodore Amiga) to seven for PlayStation so it wasn't a huge increase initially. This was partly due to the relatively pared-back design of *Destruction Derby*, there simply wasn't time for hugely complex and deep games to make the launch window," Martin recalls. "This all changed rapidly for the next releases however, we had around 30 or so working on *Driver*. " But despite the increased overall labour demand, the PlayStation reduced the need for some skillsets. "This wasn't just moving to a new platform, this was the move from 2D to 3D. This was a seismic shift as artists and coders needed to learn a whole new set of tools and technology. Teams ballooned in size, and many found themselves unable to keep up," explains Mike. "DMA had to let several good 2D artists go as they just couldn't make the transition, and coders had to learn to use proper 3D maths, from points, vectors and matrices, to 3D model formats and DMA pipelines. It was a brutal switch."

Still, the PlayStation era's teams were smaller than those making games today. "I miss the small team sizes it afforded – and from that, flexibility," says David. "When we were building the final 'Alpha' submission for *Rollcage Stage II*, it was late at night and a few of us were there. I'd been plagued by a design problem for months: how to soften the blow when players were beaten over the line after being out in front for a long time. Geoff Browitt was ready to make the final build and made the mistake of asking if there was anything else to go in. It was at that point the idea of the Total Racing points system was born – Geoff knew there were hooks into all the game's events and with Gavin Cooper we thrashed out the details and got a new game mode in at the last minute."

That's what makes the PlayStation era so exciting – a combination of boundaries being pushed and teams that were still small enough to be able to take risks. And as Mark reminds us, the result of all that is an extraordinarily diverse library of games. "The technology was great, of course, but I think what PlayStation did best was unleash the frustrated creativity of the games community. Suddenly, anything could be a game… *Parappa The Rapper*, or *Devil Dice*, or *Intelligent Qube* – these are some of my favourite PlayStation memories." Though the PlayStation conquered the console industry with a combination of power and ease of programming, its successors did not follow the same path. The PS2 was considered difficult to work with, and the PS3 even more so. "We'd hoped that PlayStation 4 would make it a bit easier to make games, particularly as it came after the PlayStation 3 which was such a beast to tame," says Mark. "What I didn't foresee is that once games were easier to bring to the console, there would be a return to the variety of game experiences that made the early PlayStation years so remarkable."

Mark is right. The PlayStation was great to work with – and when life is easy for developers, there are fewer barriers to trying new things. It offered something for everyone, whether that was arcade conversions and Japanese oddities, the *Harry Potter* and dancing games your younger sibling liked, or the football and racing games that were just realistic enough to catch your dad's attention. Without the extraordinary technology, that diversity wouldn't have been possible – and we might've found ourselves still waiting for the first console to reach 100 million players. ✱

MIKE **DAILLY**
Cofounder, DMA Design



IN THE KNOW

» **PUBLISHER:**
NINTENDO

» **DEVELOPER:**
NINTENDO EAD

» **RELEASED:**
1995

» **PLATFORM:**
SNES

» **GENRE:**
PLATFORMER

THE MAKING OF SUPER MARIO WORLD 2 YOSHI'S ISLAND

Tasked with delivering a successor to Super Mario World, Nintendo's developers decided to entrust the starring role to a new hero and knocked it out of the park. Takashi Tezuka and Shigefumi Hino look back on the development of Yoshi's Island

Words by Nick Thorpe

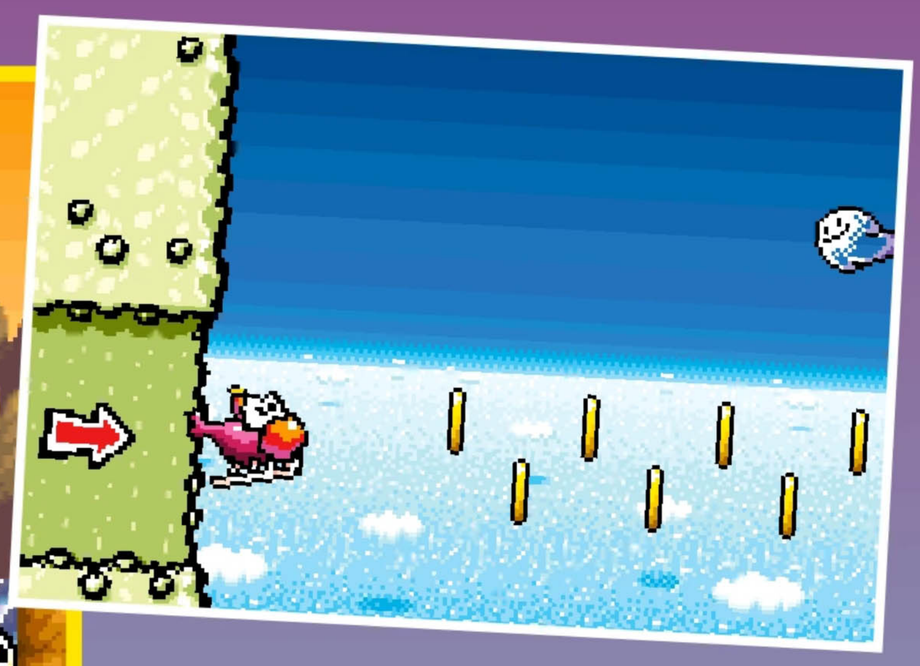
There's an enormous burden of expectation that comes with following up a game like *Super Mario World*. Retro Gamer readers voted it the greatest game of all time, and many would argue that it was as close as you could get to a perfect game, as it built admirably on the already refined Mario platform formula while adding the benefits of 16-bit technology. It would be very hard to elaborate on the formula, especially given that delays to the Ultra 64 project meant that Nintendo was still tied to the 16-bit SNES. With player expectations guaranteed to be through the roof, was there even any sense in trying to create a traditional *Mario* sequel?

It turns out that Takashi Tezuka and Shigefumi Hino didn't think so. They were two of the directors of *Yoshi's Island*, alongside fellow directors Toshihiko Nakago and Hideki Konno, with Shigeru Miyamoto acting as producer. Working together at Nintendo EAD, this team wanted to take a different approach instead. "We felt we'd done everything we wanted to for side-scrolling with *Super Mario World*, and so wanted to try creating a platformer with a different angle to it," the developers explain. "Before *Yoshi's Island*, we'd only created games with Mario as the lead character. We felt that changing the lead character would give us a different perspective and different gameplay possibilities, and so we started thinking up a game with Yoshi as the lead."

That makes sense – but the Mushroom Kingdom is home to many interesting characters, many of whom have also starred in spin-offs. What made Yoshi the character of choice over the likes of Wario, Luigi or Peach? This goes back to the creation of the character for *Super Mario World*, as we discover. "The idea for Yoshi came about because Mr Miyamoto wanted to have Mario ride a horse. We thought it would be better to have a new character rather than a horse, so Mr Hino and I went about creating one," Tezuka tells us. "Yoshi turned into quite the cute character, and we were very interested in creating some kind of spin-off with him; that's where it all began."

This wasn't Yoshi's first starring role in a game, of course. Mario's trusty steed had previously appeared headlined three games, the puzzle games *Mario & Yoshi* and *Yoshi's Cookie* and the Super Scope blaster *Yoshi's Safari*. But none

» The flutter jump is a very useful trick that can often save Yoshi when a regular jump might see him plummet.

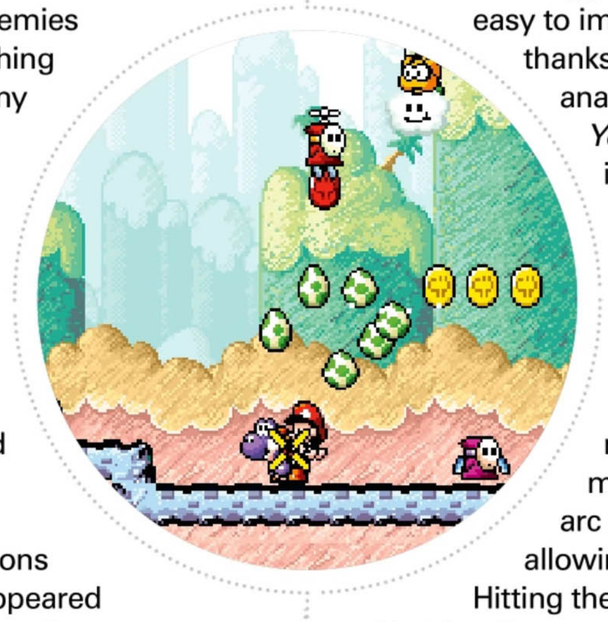


» Transforming into a helicopter is fun, but it's important to find a way to transform back – you won't get anywhere without one.

of these were platform games, and Yoshi's only appearance in a platform game so far had been as a sub-character. So while Yoshi had certain established abilities such as his ability to grab enemies with his tongue and eat them, the team had a great deal of freedom to decide on new abilities and a new style of play that would provide a clear break from traditional *Mario* games.

That said, it wasn't easy for the team to come up with these new and interesting ideas – according to Hino, such things were quickly seized upon when they did arrive. "I remember Mr Tezuka coming in suddenly one morning and dropping an idea on us," he says. "The development team were hungry for the seeds of an idea and so we ran with it; we discussed them over and over and polished them into something we could implement in game." Abilities that Yoshi gained in *Yoshi's Island* include the 'flutter jump' – an extended jump where the dinosaur struggles against gravity in a cartoonish fashion – as well as the 'ground pound' jumping attack that could be used to smash stakes into the floor, something Mario would later adopt. Yoshi also gained a variety of possible vehicle transformations including helicopters, cars and submarines, but these could only be used in certain places.

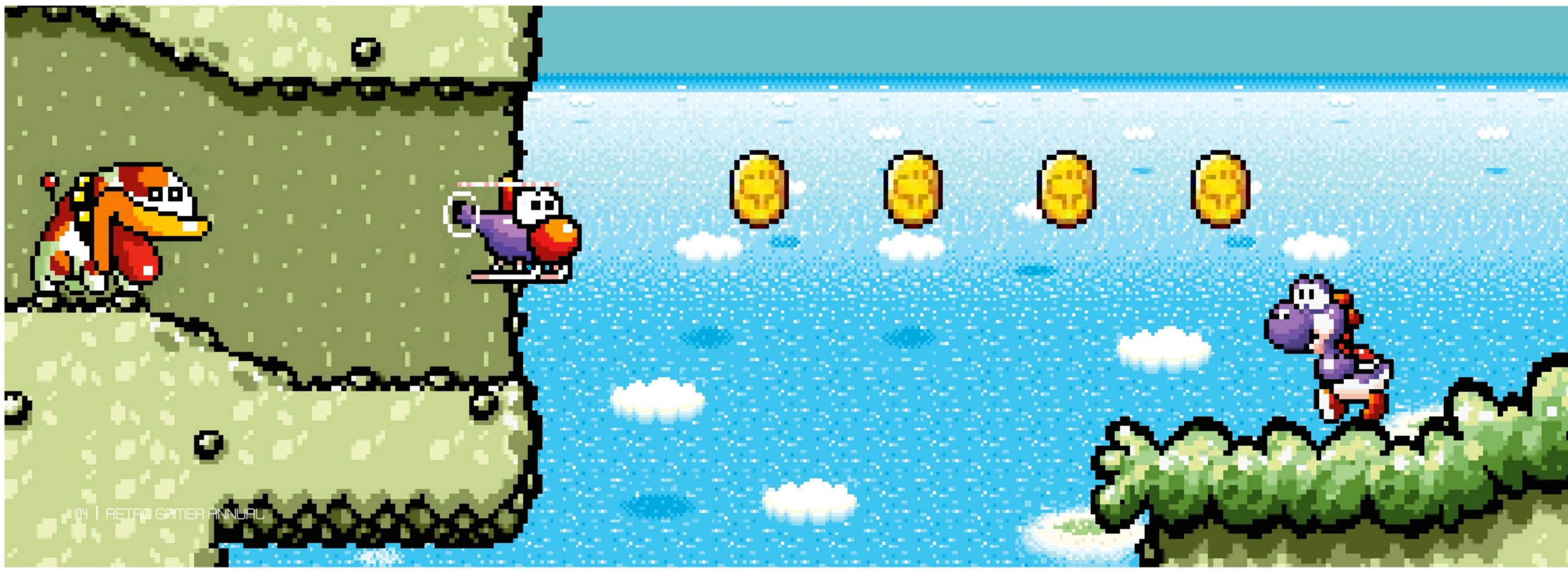
However, the ability that most closely tied into Yoshi's existing skillset was his unique capability to create eggs. As in *Super Mario World*, Yoshi could use his tongue to eat enemies and then spit them back out at other enemies as an attack. However, by pushing the down button with an enemy in Yoshi's mouth, the player could have Yoshi lay an egg. Instead of containing items or more Yoshis, as they did in the likes of *Super Mario World*, eggs could be thrown, rebounding off walls, breaking through barriers, collecting objects and smashing enemies.



"We wanted to include egg-throwing as throwing actions weren't something that had appeared much in *Mario* games," Tezuka tells us. "Having said that, though, giving users the ability to simultaneously control both Yoshi's movement and the direction they throw eggs in proved challenging and gave us quite the headache!" However, it proved to be a crucial element of the game. "Having said that, though, fusing this egg-throwing mechanic into a platformer helped us invent ideas that hadn't been possible until that point," Hino points out. "It was a real boon for ideas for the game!"

While the egg-throwing mechanic would be easy to implement in modern games thanks to the prevalence of dual analogue sticks, achieving it in *Yoshi's Island* required some ingenuity. The development team managed to hit upon an elegant solution that managed to squeeze the whole process into two button presses. By hitting the A button, the player would reveal an aiming reticule that moved back and forth along an arc in front of Yoshi – while still allowing him to run and jump freely. Hitting the A button again would cause Yoshi to throw an egg in the direction he was currently aiming for. It was the trickiest of Yoshi's skills to get to grips with as a player, but it gave the game a unique feeling amongst platform games.

One of the other things the new star allowed the Nintendo EAD team to do was make an



> **"We wanted to include egg-throwing as throwing actions weren't something that had appeared much in Mario games"**
>
> Takashi Tezuka

adjustment to the difficulty of the game. "Unlike the *Mario* series, we tried to give the gameplay a more gentle and relaxed pacing, as opposed to turning it into a platformer that requires players to master tricky techniques," explains Tezuka. "So, for example, there's no time limit on the stages, and it's a little easier to control Yoshi's jumps as he flutter jumps unlike Mario. As we were adding in these little adjustments, we came up with the idea of having some exploration elements as part of the gameplay and slowly the game took shape."

Sometimes the desire to provide exploration elements and a relaxed game experience were conflicting goals, as was the case when deciding on a progression system. *Super Mario Bros 3* and *Super Mario World* had both used maps that allowed the player to select the next stage. Why did the team choose to return to linear progression for *Yoshi's Island*? "We looked at many different map styles for this game. Seeing as we had already used a board game-style map system in *Super Mario World*, we settled on a linear path as a way of returning to our beginnings," Tezuka replies. "The map used in *Super Mario World* and other titles gives users the option to choose the level of difficulty when there's a branch

YOSHI IN MY POCKET

How did Yoshi's greatest adventure translate to the small screen of the Game Boy Advance?

The Game Boy Advance was often seen as a perfect handheld home for SNES games, and after *Super Mario World* was successfully miniaturised, it felt like *Yoshi's Island* would be a natural successor. Nintendo delivered on that expectation in September 2002 with *Super Mario Advance 3: Yoshi's Island*, issuing a conversion that received a broadly positive reception. Many purists swear by the SNES original, but this version does have some unique content worth investigating.

» Colours were lightened in this portable version to account for the GBA's dark screen.

The game is mostly faithful, but some changes were made in order to lower the difficulty level from the original SNES version. The countdown to recover Baby Mario is noticeably slower in the GBA game, and various minor level design changes were made such as the addition of Middle Ring checkpoints and Shy Guy spawning pipes. The original game's Extra Levels have been modified, and a set of six new Secret Levels were added. One aspect of the game was made harder, though – red coins were made visually identical to regular coins prior to collection.

Changes were also made to the game's presentation. Colours have been lightened throughout to compensate for the original Game Boy Advance's dark display, and the colouring of the Yoshis has been made more consistent with later games. The game also received a new translation. However, this version isn't quite perfect. The music and sound effects don't quite match the original quality, there's occasional slowdown and some graphical effects were downgraded too (most notably in stage 1-7, Touch Fuzzy Get Dizzy).

» Fuzzy is probably a Class A controlled substance in the Mushroom Kingdom, judging by its effect on Yoshi…

DEVELOPER HIGHLIGHTS

SUPER MARIO WORLD (PICTURED)
SYSTEM: SNES
YEAR: 1990

SUPER MARIO KART
SYSTEM: SNES
YEAR: 1992

SUPER MARIO 64
SYSTEM: N64
YEAR: 1996

YOSHI'S (HI)STORY

A look back at Yoshi's other solo adventures...

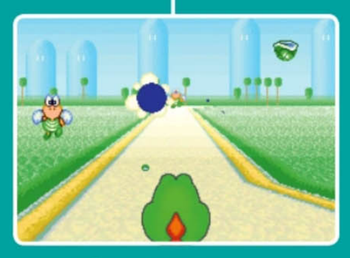
1991 — 1992 — 1993 — 1996 — 1998 — 2001

MARIO & YOSHI
NES/GAME BOY

This puzzle game sees you swapping stacks of items to encase enemies between pieces of eggshell. It's okay, but not a top-tier game on either of its platforms.

YOSHI'S COOKIE
NES/SNES/GAME BOY

This is another puzzler, in which you mix and match sweet treats in order to create matching rows or columns. It's another game that's interesting but far from tremendous.



YOSHI'S SAFARI
SNES

In this Super Scope game, Mario rides Yoshi around rotating Mode 7 landscapes, blasting Goombas and Koopas out of the sky. It's another strictly average spin-off, too.

TETRIS ATTACK
SNES/GAME BOY

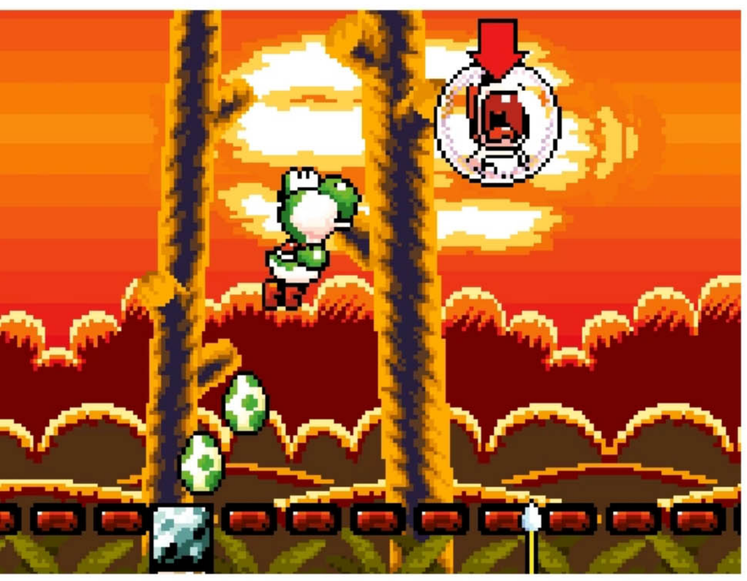
It's the excellent Japanese puzzle game *Panel De Pon*, but reskinned with a Yoshi theme that was deemed more marketable to international audiences.

YOSHI'S STORY
N64

Yoshi's second platform outing used prerendered 3D graphics and tasked Yoshi's with finding huge fruit quotas. It's fun, but a bit easy and not quite as good as *Yoshi's Island*.

YOSHI'S STORY (GBA)
GAME BOY ADVANCE

This short, looping version of the N64 game was a tech demo that was never released. However, it was shown to journalists to demonstrate the 32-bit handheld's power.



» Get hit and Baby Mario will float off in a bubble – recover him in the time limit or the Magikoopas will get him.

in the path," adds Hino. "With *Yoshi's Island*, we designed the game so that players can play the courses over again with different objectives so they can get better. So, with that in mind, rather than users going through the game selecting what level of difficulty they want to play, as done with the board game-style maps, our intention was to make it possible for users to progress through the game by setting their own goals."

As well as the ability to set your own level of challenge, one of the key aspects of the game's gentle pacing was the ability for the player to get hit without being in too much danger. In the Mario games, the player was only ever a couple of hits away from losing a life, with finite opportunities to grab power-ups in order to prevent that outcome. In *Yoshi's Island*, getting hit would cause Yoshi to lose his cargo, and the player had a short amount of time to recover it – but if they did so successfully that time limit would reset, meaning that it was possible to take an unlimited number of hits per stage. And in a surprising role reversal, that cargo was Baby Mario.

"I don't think we started out with the intention of having the roles reversed," reveals Hino. "Once we decided to make Yoshi the lead, we thought he could have something ride on his back and so decided Yoshi's mission would be to carry something through the game. We wanted to add something extra to the traditional side-scrolling gameplay of having players just proceed to the right to reach a goal, and so having Yoshi need to carry something across the map was a good fit." That makes sense given Yoshi's original role as a mount for a certain plucky plumber, but why did Mario need to be a baby? "We decided to have Yoshi carry Mario because that's what he's always done, but we made Mario into a baby as it wouldn't make sense for the game if Mario could walk around by himself," Hino explains. "This setup was also a big help for writing the story for the game."

That story started with a stork attempting to deliver Baby Mario and Luigi to their parents, only to be attacked by Bowser's henchman Kamek, a Magikoopa who could foresee the great problems that these brothers would cause for his boss. While he succeeded in kidnapping the Baby

2004 — 2005 — 2006 — 2014 — 2015 — 2019

YOSHI'S UNIVERSAL GRAVITATION
GAME BOY ADVANCE

This platformer was developed by Artoon, and had a gimmick in which you could tilt the playfield using a tilt sensor. Unfortunately, it was very poor.

YOSHI TOUCH & GO
DS

This experimental game saw players drawing on the touchscreen to guide Mario to Yoshi, before controlling Yoshi's egg-throwing in scrolling segments.

YOSHI'S ISLAND DS
DS

This sequel to *Yoshi's Island* retains the style and mechanics of the SNES game, but adds new babies – Peach, Donkey Kong, Wario and Bowser now join Mario.

YOSHI'S NEW ISLAND
3DS

While it tried to follow the success of the previous *Yoshi's Island* games, this 3DS outing was a bit too easy and bland to make the same impression as its predecessors.

YOSHI'S WOOLLY WORLD
WII U

This platformer sports a knitted aesthetic and offered a pretty good time, particularly when played in co-op. The 3DS conversion is known as *Poochy & Yoshi's Woolly World*.

YOSHI'S CRAFTED WORLD
SWITCH

Woolly World's success earned Good-Feel the opportunity to do another platform game. Read more about it on page 30.

"We spent a lot of time trying to come up with a new and different look for the game"
Shigefumi Hino

Luigi, Baby Mario was lost in the confusion and fell to Yoshi's Island. With the instinctive bond that brothers have, Baby Mario could sense his brother's location, and the Yoshis decided to take him to rescue Baby Luigi and reunite them both with their parents. And for those of you unfamiliar with the game, that plural is no typo. "One of the ideas that came out while we were creating the story, and which I'm particularly taken with, is that there are many different Yoshis in the game," says Tezuka. "Normally, the lead character is a singular character in the game world, so personally I thought the idea of having different Yoshis working together and taking turns to carry Baby Mario through the game was really interesting."

This storybook presentation plays well with the game's aesthetic – it sports a hand-drawn, colouring book style with crayon backgrounds. While this wasn't the plan from the start, the idea of being visually unique was one of the team's aims. "We spent a lot of time trying to come up with a new and different look for the game. We tried out many ideas and the most interesting was one I drew as a last-ditch attempt: a cloud that had this very rough scribbled look to it," explains Hino. "Everyone agreed it was perfect and so we decided to go ahead with giving the game a hand-drawn look. At the time, there were a lot of other beautiful graphics out there, and we wanted to differentiate our title from these. I also watched a lot of children's TV shows as well for inspiration."

That wasn't the only reason that the Nintendo EAD team ultimately chose to use a deliberately low-tech look. "At the time, our company was abuzz with talk of the graphics used in Rare's *Donkey Kong Country*. There was definitely a feeling that those sorts of visuals might go on to become the mainstream. I wanted us to come at things from a different angle," says Tezuka. "Although there were some people in the company who were expecting us to follow *Donkey Kong Country*, a decision was taken that we should put our weight behind a completely different sort of visual look," adds Hino. "It was around about the time that we decided on that direction that Mr Hisashi Nogami joined the company as a designer. As we were competing together and having fun coming up with different designs, we slowly settled on the feel we wanted the visuals to

» Although *Yoshi's Island* has a gentler pace, there are still challenges like tricky moving platform paths.

“We competed in the team to see what were the most amusing or fun things we could draw”

Takashi Tezuka

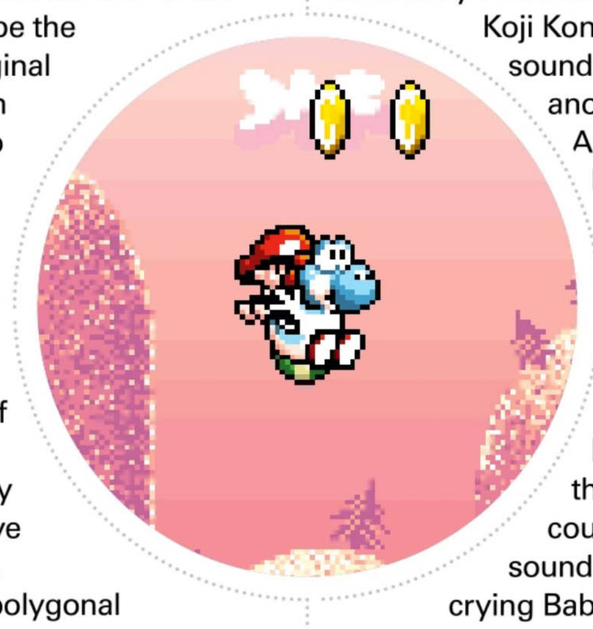
» This snowball gets bigger as you roll it, and can wipe out enemies in its path.

have.” In a 2018 interview with *Kotaku*, Nogami mentioned the game’s hand-drawn look was actually achieved quite literally – images were drawn by hand, scanned and recreated as pixel art

Of course, the ironic thing is that despite that rejection of *Donkey Kong Country*’s look, *Yoshi’s Island* was a game that did things that few other SNES games could. It’s something that isn’t lost on the developers. “*Yoshi’s Island* has this very warm and friendly feel to it, but a lot of technical effort went into making the game,” they note. “It’s actually one of the later SNES games, so [it] makes use of all the developmental know-how we’d built up to that point, as well as what was considered the latest in technology with the Super FX 2 chip.”

The use of the enhancement chip is a curious one, and we were interested to know where the decision to use it came about. “In principle, we look at what the software and hardware can do and look at what sorts of visuals or gameplay we can create with that technology. It was mentioned one day that the Super FX 2 technology was available, and a suggestion was made about using it,” explain the developers. “We were very excited and decided to make use of it for two reasons: the first was that as software developers we wanted to use all new technology we could, and the other point was that this technology offered further gameplay and visual possibilities (eg, object (sprite) rotation and a large increase in the number of screen colours possible).”

What was so interesting about the use of the Super FX 2 chip? That would be the way it was deployed – the original chip, designed by the UK team at Argonaut, had been used to power the polygonal graphics of *Starwing*. All of the subsequent Super FX games, like *Stunt Race FX* and Vortex, had been 3D games too. Few gamers would have guessed that the first outing of the updated version would be in a 2D game, but it proved key to some of the most impressive visual effects in *Yoshi’s Island*. Some of those were actually polygonal special effects, such as falling walls and rolling platforms. But the Super FX 2 was primarily used here for manipulating 2D sprites, a technique that Nintendo called ‘Morphmation’ in advertising. As well as adding extra layers of parallax scrolling, the chip allowed the console to handle multiple rotating sprites on the screen, perform some psychedelic background warping and even squash and stretch sprites. These were most frequently used in the game’s boss battles, which routinely featured some absolutely colossal sprites.



Koji Kondo was behind the game’s sound and music, and delivered another set of memorable themes. Although still present, there was less focus on the bongos and other additional percussion that had marked Yoshi’s presence in *Super Mario World*, and there were some pretty bold musical choices – most notably the music box tune that played during the game’s intro sequence. Of course, the most memorable sound in the game was that of the crying Baby Mario, which triggered whenever he was separated from his dinosaur guardian – we’d avoid getting hit just to make sure that we didn’t hear it. The Japan-only official soundtrack CD is now a prized item in its own right, with used copies selling for extraordinary prices.

DINOSAUR DISTRACTIONS

Yoshi’s Island has six bonus games and four mini battles – here’s the complete guide to them

▲ DRAWING LOTS

■ This game’s the simplest of the lot – you pick one of the six cards, and receive whatever’s on it. If you reveal Kamek, you get nothing.

▼ FLIP CARDS

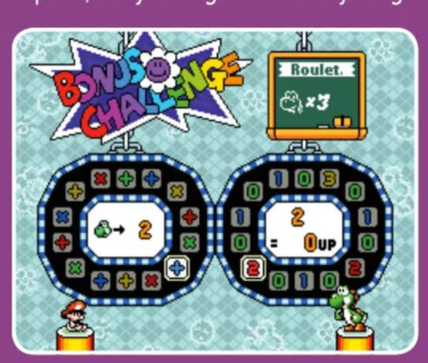
■ Flipping cards on this board reveals items. If you reveal Kamek, you’ll lose the lot, but flipping seven good ones wins you ten lives.

▲ MATCH CARDS

■ This is a simple game of pairs in which you can win items. You’ll need a good memory, since you’re only allowed to make one mistake.

▼ ROULETTE

■ This one’s dangerous – you can wager lives in order to add extra lives, or even multiply your life total. You can triple it, but you might lose everything!



▲ SCRATCH & MATCH

■ It’s a scratchcard! The more Baby Marios you reveal, the more lives you get – one for one, two for two and five for three.

» You're not going to get past the massive Nep-Enut by jumping, so it's best to feed him an egg.

Yoshi's Island was released in August 1995 in Japan, and releases in North America and Europe followed in October 1995. The game received universal acclaim upon its release. *Nintendo Magazine System* gave it 97%, with Simon Clays commenting that it was "about the best game I've ever had the pleasure to play," with his only complaint being that the graphics were "slightly immature". Tony Mott awarded the game 94% for *Super Play* and praised it for its variety, noting that "You never know what's just around each corner, but you know that it'll be something worth seeing." However, he felt that the game's linear progression was disappointing by comparison to *Super Mario World's* wealth of secret exits and stages. *Edge*'s review scored the game 9/10, crediting the Super FX2 chip with "some wonderfully inventive touches which make each new level a reward to the player."

The game was later converted to Game Boy Advance as *Super Mario Advance 3: Yoshi's Island*, and that version has since been made available for 3DS and Wii U. Of course, despite Yoshi's solo success Mario was soon back on top. Although the developers felt that they'd pushed Mario to his 2D limit, new hardware meant that Nintendo had already figured out what to do with its headline star. Less than a year later, Mario returned in the groundbreaking *Super Mario 64*, which many of the *Yoshi's Island* staff also worked on. But as a swan song for an era in which 2D gaming was still the primary concern of the world's most prominent game developers, you couldn't ask for much better than *Yoshi's Island*. The game established Yoshi as a platform star in his own right and is still considered to be one of the greatest of all time, frequently showing up in lists of the best games ever, including Games™'s top 100 in 2010 and our own readers' top 150 in 2015.

With that in mind, we'll leave the last word to the developers – why do they think that the game is still so beloved by players? "I think maybe it has something to do with the appeal of the gameplay; Yoshi offers this unique ability to gobble up enemies, turn them into eggs, and then throw those eggs," says Tezuka. "For the *Yoshi* series, we wanted to convey Yoshi's warmth of character. The adorable voice and our leaning towards hand-made visuals has all added up to create the character's uniqueness, and I think it's maybe these things that players are drawn to."

"It wasn't easy creating Yoshi or *Yoshi's Island*," says Hino. "We competed in the team to see what were the most amusing or fun things we could draw, and laughed together as we thought up strange enemies and level features, knowing we had a bit more freedom to do so because it wasn't a Mario game. Even the programmers jumped on board and worked really hard to achieve our ideas. I think the fondness people have for the character and the game is because we managed to give form to all this passion we had. A long time has passed since then, but even now designers continue to develop Yoshi with all kinds of different interpretations, such as handicrafts, worlds made of yarn and so on. I'm really happy to see people still continuing to enjoy playing with Yoshi." ★

MORPHIN' TIME

Yoshi can take five different forms after entering a Morph Bubble – but what do they all do?

CAR ▸

■ Four wheels are faster than two legs. In this form Yoshi can also dodge enemies and reach greater heights by adjusting his wheels' suspension.

◂ HELICOPTER

■ Who needs a blue winged Yoshi when you've got rotor blades? This form can fly freely through the air for a limited time, though you do need to beware of inertia.

MOLE TANK ▸

■ We really *dig* this particular transformation. [*Nick, please collect your P45 from reception – Ed.*] As you'd expect, it allows Yoshi to create tunnels.

◂ SUBMARINE

■ This one's a bit of a belter – not only does Yoshi get freedom of movement underwater, he also gets the ability to fire torpedoes at his enemies.

TRAIN ▸

■ Becoming a train allows Yoshi to travel along tracks. Thankfully realism is left to one side, so it doesn't cost him all his coins and he's never replaced by a bus.

▾ SLOT MACHINE

■ This fruit machine will give you extra lives if you can match the symbols on the reels. You don't even need to pay 10p to play – bargain.

▴ GATHER COINS

■ Coins are fired out of a cannon high above the arena, and it's your job to collect them. You can jump on your opponent to hinder them, too.

▾ POPPING BALLOONS

■. Your job is to pop these baloons to try to find a hidden item before your opponent does.

▴ THROWING BALLOONS

■ Input button commands to throw a water balloon at your enemy. If it pops in your hands, you lose!

▾ WATERMELON SEED SPITTING CONTEST

■ Battle against a foe by shooting watermelon seeds at them.

THE HISTORY OF Fallout

IT'S BEEN 22 YEARS SINCE THE BOMBS FIRST DROPPED AND THEY'VE SHOWN NO SIGN OF STOPPING. FALLOUT IS A SERIES THAT'S SEEN MANY CHANGES IN ITS TIME, MANY OFF-SHOOTS AND MANY FAILED PROJECTS. WHO KNEW THE END OF THE WORLD COULD BE SO FULL OF LIFE?

Words by Ian Dransfield

» VATS has been present in ridiculous acronym form since day one. The ability to shoot things in the groin was removed for the Bethesda era, though.

Considering the fact war never changes, it might be surprising how much the *Fallout* series has transformed over the past two decades. Beginning life as an isometric CRPG bathed in the glow of both tabletop, pen-and-paper role-playing games and its spiritual antecedent *Wasteland*, the franchise has developed from these niche beginnings into – somewhat ironically – a world-beater. Alright, not quite a 'world-exploder', which would have been quite fitting. But close enough.

Going back to the first game now is an initial exercise in frustration – 1997's *Fallout* was, and remains, a brutally difficult, uncompromising game. If you mess up, you die. If you make the wrong decision, you die. If you don't mess up or make the wrong decision, you still die. It's dark, it's (generally) presented with a straight face, and it wants you to know that the end of the world via nuclear holocaust is as cruel and vicious a thing as it sounds.

"I had been a post-apocalyptic fiction fan since I was a kid," Brian Fargo, executive producer on *Fallout* (and founder of Interplay) tells us, "And *Wasteland* was my first attempt at bringing something to the genre. Shortly after finishing the *Wasteland* game, Interplay became a publisher and we no longer created games for other people. I tried to get EA to license me the rights back, but I was unable to succeed despite trying for many years. I finally decided we'd do our own post-apocalyptic game and call it *Fallout*."

» Concept art for *Fallout* demonstrating a ruined, dangerous wasteland, and the humans that have to survive in it.

» One thing that's striking about the original two games is just how good the voice acting is. None of your Matthew 'Phone It In' Perry rubbish here.

Sitting down with the development team, Brian Fargo and his crew at Interplay analysed what made *Wasteland* tick – what it was about the then-decade-old PC RPG that had kept people playing it so much over the years. "It was a matter of getting a small team to start bringing the project to life. To breathe humanity and charm into the game," Brian remembers. "We created a sensibilities document that spoke to points such as moral ambiguity, tactical combat, a skills based system and the attributes system. After we nailed down what was important, development went off and began working on ideas that hit the touch points."

Tim Cain is credited as the creator of *Fallout* – after all, it was his work on the game's engine that brought the world to life, with a dedicated stretch of months working alone to get the project off the ground. Early versions saw time travel, and use of the GURPS ruleset that was implemented and ultimately abandoned (more on that in a minute). "I was working on different engines while nominally tasked with making game installers," Tim explains. "I made a voxel engine, a 3D engine and finally an isometric sprite engine that I really liked. From there, I started making a combat engine based on GURPS, which I was playing paper-and-pencil with a group two or three evenings a week. That started getting some people interested in after-hours work on the game, and that grew into *Fallout*."

It sounded straightforward, but development was impacted by the fact Interplay didn't put much stock in the project. "The game did not follow a formal development process at Interplay," Tim says. "It sort of grew organically, collecting people as it did so and avoided two near cancellations as the administration felt those resources would be better spent elsewhere." The 'elsewhere' in question being big licences the studio had acquired, which it saw as the better financial option for a potential release. But Tim continued, as did a team of around 30 people, on crafting something new and original – albeit something that originally began life riffing on *Wasteland*.

» On a scale of one to DON'T AGGRO THEM, we'd say this is up there. Super Mutants are a mainstay threat of the *Fallout* series for good reason.

» Brian Fargo continues to dabble with the apocalypse with the *Wasteland* series.

SURVIVORS OF THE APOCALYPSE

The odd folk that populate the ruined husk of our world

HUMANS

■ Not just your regular folk, but dwarves, beastfolk and swamp people, among others. Humans are the most widespread species of the post-apocalyptic futurescape, even though it was humans who caused all of this nuclear nonsense to begin with. One thing's for sure in the wasteland, though: human nature isn't very kind.

GHOULS

■ Folks who forget to slip, slap and slop with their factor 5 million in the wasteland end up a little worse for wear as irradiated, skinless ghouls. Many you encounter maintain their faculties and operate largely as normal human beings. For some, prolonged exposure to radiation has eaten up their brains, and they roam the lands as feral zombies.

SUPER MUTANTS

■ Humans 'dipped' into Forced Evolutionary Virus (FEV) goo sometimes – not always – result in super mutants: gigantic brutes, usually dumb, sometimes smart, always extremely dangerous. A mainstay of the series since day one, super mutants tend to be on the antagonistic side of things, but every now and then you get a friendly one.

ROBOTS

■ Robots come in all shapes and sizes and are everywhere throughout the entire series, friend or foe, and the Fifties sci-fi feel of *Fallout* is helped a great deal by them – none more than by the Protectrons: your standard security bots who just happen to look strikingly like *Forbidden Planet*'s Robby The Robot.

ALIENS

■ It wasn't until the third game that the aliens made an actual, living appearance, but plenty of spaceships of theirs crashed across the wasteland from the first game on. Intelligent and cunning, these blighters are as mysterious as they are rare – though the rumblings are they could have been behind the Great War.

SYNTHS

■ The post-apocalyptic kids on the block, synths are one of the few new technologies to arise after the bombs have dropped. Based on prewar technology, synths were created to mimic – and be indistinguishable from – humans. Nick Valentine, arguably *Fallout*'s greatest companion, is a synth, though it's quite easy to tell.

"WE WERE ALL WORKING TOGETHER IN THE SAME DIRECTION. THERE WAS LITTLE CLASH OF EGOS"

Tim Cain

» Tim Cain still works on RPGs today and is currently based at Obsidian Entertainment.

» When society crumbles, it's the degenerates who take hold. How very prescient *Fallout* is.

▶ One system introduced in the original *Fallout* was a bespoke creation, and has remained one of few constants in the series: SPECIAL. Strength, Perception, Endurance, Charisma, Intelligence, Agility and Luck all came into play in shaping your character – you might have gone for a brute with low IQ, making you unable to converse with smarter NPCs, or maybe you wanted to solve everything with your wit and suave, charismatic nature: the tools were set with this deceptively simple formula.

And it almost wasn't to be. "*Fallout* was originally a GURPS game," says Chris Taylor, lead designer on *Fallout*. GURPS was a tabletop system developed by Steve Jackson Games; standing for Generic Universal Role Playing System, it was made to be used across all forms of role-playing, and the folks behind *Fallout* thought it would be a great fit. GURPS was licensed, and work began on *Fallout: A GURPS Post-Nuclear Adventure*, as it was called early on.

Things didn't turn out well, though. "We showed the opening movie with the prisoner being shot in the head while waving at the camera and Steve Jackson was not fond of it, to say the least," says Brian Fargo, "I knew the kind of world we were building and that opening scene was just a warm up to the brutal world of *Fallout*, so I terminated the deal."

Needing a replacement, Chris Taylor turned to a nascent ruleset he'd been working on in his own time. "I wrote my own RPG system on the back of three-by-five cards, in notebooks and on scraps of grid paper. My game was called *MediEvil*. It was not good. So [my friend and I] played *D&D* instead. But I kept those notes and would work on the game every now and then for a decade – when it came time to replace GURPS, I had something to work with," he says,

» Michael Dorn – *Star Trek*'s Worf – turn as Marcus, the former follower of the Master, proved a fine companion. His return in *New Vegas* was much appreciated.

"The team took the system and made it work. We took it and adapted it; it had the statistics and skills we needed, but Perks were created specifically for *Fallout* to replace the GURPS advantage/disadvantage traits."

This sort of synergy wasn't something you got often in development – it still isn't – but it lent itself nicely to the mythos behind what *Fallout* would become. "The team on *Fallout* had a very special vibe," Tim remembers, "We were all working together to go in the same direction. There was very little clash of egos or desire to pull the game in a different direction. That is rare in development.

"*Fallout* was always seen as a B project at Interplay," he continues, "At least until the last few months of development. It is frustrating to see something in your game that no one outside the team can see until almost the last moment before it is complete."

The team could see it, though, and those who played *Fallout* were treated to a deep, original, and incredibly bleak look at a world ravaged by nuclear war. Survival was hard, but you were presented with more than just guns and knives to make your way through the world. Your words were just as deadly, and the game's final boss encounter could see players with high enough charisma talk the big bad into killing himself after convincing him of how wrong he was. This was unprecedented in computer gaming at the time, and was testament to the incredible work Tim Cain and the team carried out.

Before the original had even released, however, work on the sequel began – "*Fallout* really caused a buzz in the studio about six months before it was released," Tim explains, "QA staff were coming in nights and weekends, on their own time without pay, to play it. So *Fallout 2* was started even before *Fallout* shipped." A small project for Interplay had become a labour of love for those working on it, and when the review scores – and money – did start coming in for the first game, it became a labour of business love for the brass at the publisher, too. *Fallout 2* would launch exactly one year after the original.

Safe now in the realms of 20-year-old rose-tinted reminiscence, we remember the sequel fondly and laugh at its more light-hearted take on the series. But revisiting the time of its inception, development, and release brings back memories of a tumultuous ▶

WEIRD WASTELANDS

The easter eggs of Fallout

UFO CRASH

FALLOUT 1-4, NEW VEGAS

■ If there's a *Fallout*, there's a UFO crash somewhere along the way. And usually sweet alien loot to bag, like the awfully useful and high-powered Alien Blaster. Keep on crashing, alien friends.

OLD-ISH SCROLLS

FALLOUT: NEW VEGAS

■ An acknowledgement of where the modern *Fallout* games owe a lot of their existence: some lampposts in Freeside have 'TES-04' engraved on them, referencing the then-upcoming *Elder Scrolls IV: Skyrim*.

MONTY PYTHON

FALLOUT 2

■ You run into odd folk in the wasteland, like a bunch of so-called knights headed by a chap called Arthur on their way to find a 'holy hand grenade'. You can pretend to help, but they still don't know where the GECK is.

THE TARDIS

FALLOUT

■ To say this encounter is a bit on the nose is an understatement: you're in the wild, you stumble upon an old police box, its light starts flashing and it fades from the scene. You just got *Doctor Who*'d, kid.

RAIDER OF THE LOST FRIDGE

NEW VEGAS

■ A more realistic recreation of the scene we've tried to burn from our memories, in which Indiana Jones hid safely from a nearby nuclear explosion inside a fridge. In this version, all that's left is a skeleton and hat.

DON'T PANIC!

FALLOUT 2

■ *The Hitchhikers Guide To The Galaxy* is your usual reference point for ultranerds, and *Fallout 2* is no exception. The whale has fallen from a great height, though that's not what killed it – it was the sudden stop.

THE OTHER GUYS

FALLOUT 3

■ For all the legal issues and a certain fall from grace, Bethesda still managed to give props to original publisher Interplay with this structure looking the spitting image of the latter's logo. Just don't mention *Fallout Online*.

MAD MAX

FALLOUT 1-4, NEW VEGAS

■ The leather armour in the *Fallout* series is synonymous now with the games that it's easy to forget it was based on the outfit worn by Max Rockatansky in the *Mad Max* films. Shame that the Interceptor doesn't show up, though.

APOCALYPSE NOW

Where Fallout takes place

OREGON

FALLOUT 2

■ The game's starting – and focal – village of Arroyo, located in Oregon, was settled by the original game's protagonist after their expulsion from Vault 13. That said, the journey of the second game's character takes in many places from the original, almost a century later.

MOJAVE WASTELAND

FALLOUT: NEW VEGAS

■ This wasteland enveloped Las Vegas – with Bethesda focused on the east coast, Obsidian was free to return to the west, as many of its staff had worked on with the originals. While relatively untouched by nuclear war, the desert proved a fine setting for a *Fallout*.

MIDWEST

FALLOUT TACTICS

■ Taking in Chicago, Kansas, and Colorado, the *Tactics* spin-off might not be considered canon by Bethesda, but it does tell the tale of an expansionist group known as the Brotherhood Of Steel which thinks its opinion is The One That Counts. Which, honestly, sounds pretty canonical to us.

BOSTON, MASSACHUSETTS

FALLOUT 4

■ Back to the east coast, Bethesda took great pains to recreate many elements of the home of witches and Sam Adams – you got plenty of coastline, plenty of baseball (in city form), and plenty of reference to the American Revolution. Whatever your feelings on the game as a whole, the setting was ideal.

SOUTHERN CALIFORNIA

FALLOUT

■ It's not recognisable as the California we know, and the Vault Dweller's journey doesn't take them through recognisably-named towns – what was once Bakersfield is Necropolis, and there's part of what was Los Angeles in the Boneyard. But that's the appeal of the original: the world ended, and here's how it picked itself up and restarted.

TEXAS

FALLOUT: BROTHERHOOD OF STEEL

■ What better place to set a *Fallout* game than somewhere that's already a desert full of guns? Texas probably hasn't changed much after the bombs dropped, though the scorpions are a bit bigger, and it would have made a superb setting for a core *Fallout* game. Such a shame it was wasted on this poor spin-off.

WEST VIRGINIA

FALLOUT 76

■ Being a multiplayer offering, *Fallout 76* aims not to recreate one city and its suburbs but instead goes back to the classic method of making a whole region – maybe even state. West Virginia is the setting for players to go out and recolonise the world, and to try not to nuke each other into oblivion. Again.

WASHINGTON DC

FALLOUT 3

■ Bethesda made the smart decision to pare things back when it took over, with *Fallout 3* focusing on a single city (and its outskirts) rather than a vast geographical region in the States. The statement of intent behind featuring a devastated White House was notably impressive.

"FALLOUT 2 WAS A SLAPDASH PROJECT WITHOUT A LOT OF OVERSIGHT"

Chris Avellone

time in development – and a fanbase backlash that took many by surprise.

"Behind the scenes you will always find that it's very intense with the creative leads battling for their perspective," Brian says, "But that is nothing more than the creative process at work. Getting *Fallout 2* off the ground was a bit painful but other than that I don't have any specific memories of negative things. It was an all-star cast of talent all pulling in the right direction." While the then-Interplay boss looked back on the experience as a positive with some 'battling', those working in the trenches were privy to a much more tumultuous, fatiguing experience working on *Fallout 2*.

One factor that stood out more than others was the fact Tim, along with two other big names in the first game, Leonard Boyarsky and Jason Anderson, all quit developer Black Isle Studios during *Fallout 2*'s creation. While based on ideas from the three – "We just left work for a whole day and brainstormed until we came up with the right design, which, if I recall correctly, was accepted as is without any revisions," explains Leonard, art director on the first game – it had become a project pushed by corporate desire rather than personal motivation, with an exceedingly short development timeframe for such a huge project, and a leadership vacuum in the wake of Tim and co's leaving.

"We had no idea any of this was going on," says Chris Avellone, designer and writer on *Fallout 2* and *New Vegas*. "Next thing we knew, Feargus [Urquhart] was calling an emergency meeting in Black Isle and rapidly passing out area designs for *Fallout 2*, splitting the game areas up amongst the available – and even unavailable – designers. We all got drafted and got to work. I was working on *Planescape: Torment* at the time, so my double-duty on two RPGs began.

» A series about lonesome wanderers doesn't seem right to feature a car, but *Fallout 2*'s vehicle was absolutely necessary to get about.

"It did feel like the heart of the team had gone," he continues. "And all that was left were a bunch of developers working on different aspects of the game like a big patchwork beast – but there wasn't a good 'spine' or 'heart' to the game, we were just making content as fast as we could."

That patchwork approach to development led to a tonal clash throughout *Fallout 2*. Where the first game was dark, the second included wacky references to Monty Python, *Hitchhiker's Guide To the Galaxy*, *Godzilla* and more. Some were genuinely funny, sure, but plenty were off-target. "I think the loss of Leonard and Jason accounted for a lot of the loss of the dark tone," Tim Cain explains. "And my personal rule of 'no jokes or cultural references that made no sense to the player who didn't understand them' was thrown aside after I left development."

Chris Avellone admits he was guilty of placing a few gags and references, but the designer still wasn't a fan of how things were being put together, even if it was fun to put in a joke you liked, or a reference to a character you thought might be cool. "*Fallout 2* was a slapdash project without a lot of oversight. Management didn't have the time," he says, "As a result, people just threw in things they thought were funny – even things like character models you didn't know what you were going to get."

The fedora and Tommy gun-toting thugs in New Reno, whose character models don't even look like they belong in the game, were presented to Chris Avellone without him even asking for them. "They were just done," he explains, "And I had to make use of them even though they didn't have the right 'feel'… but then again, not much of New Reno did, even though there were a lot of things you could do in town."

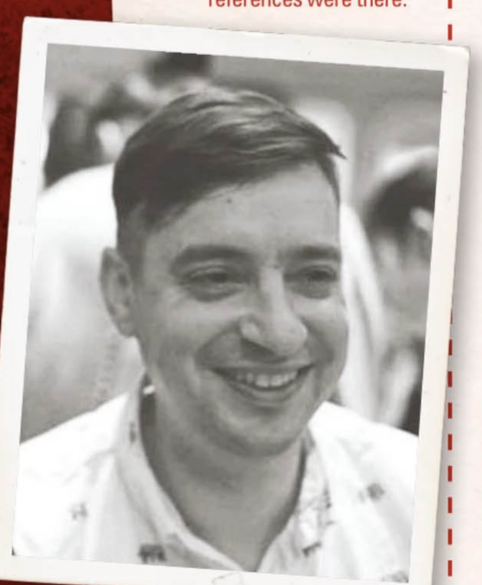
There was a lot to do throughout all of *Fallout 2*. The game itself hardly developed from what the first had been – it was painting over the ▶

» Turn-based was a choice in *Tactics*, but really this was a run-and-gun strategic shooter – and all the better for it.

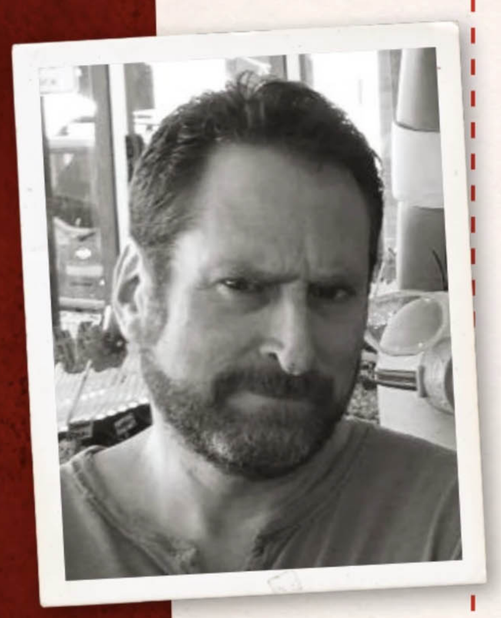
» Concept art for *Fallout 3* shows an early version of Rivet City, the biggest settlement in the Capital Wasteland.

» Chris Avellone is a veteran game writer, having worked on a trove of well-received RPGS and cerebral titles.

» *Baldur's Gate Dark Alliance* translated very well to console. *Fallout*... did not, even if the references were there.



» After producing *Fallout 3*, Gavin Carter moved to work on *Halo 4*.



» Leonard Boyarsky has worked with Blizzard in recent years on its *Diablo* franchise.

"WE WANTED TO MORE FULLY REALISE A VISION OF A POST-APOCALYPTIC FUTURE"

Gavin Carter

▶ original to create new content. But it was still superb fun, and the tonal differences with the first game actually amassed an army of diehards demanding humour in their *Fallout* games to this day. And when *Fallout 2* wanted to do serious, or wanted you to see the consequences of your actions – well, just check what happens when you get 'slaver' tattooed on your face for a lark (spoiler: you essentially ruin your game as hardly anybody of importance will deal with you).

Fallout 2 released after around a year of development – compared to the original's three years. In that time the team made a new part of the world to explore, a vast amount of new stories to tell – they even gave you a car. It was an impressive feat, yet still one that rubbed *Fallout* diehards up the wrong way. *Fallout*'s creator, though, remained positive even though he'd left the project: "I have always been impressed that the team could make a game that was much bigger than the original in a third of the time," Tim Cain says. "They should be enormously proud of their achievement."

The problems arising through *Fallout 2*'s confused development would set a pattern for the years to follow at Interplay, and the second game would end up being the last *core* title in the franchise by the publisher. Though that's not to say it didn't try launching a bunch of projects, but ultimately these didn't get off the ground. In the period between the second and third games came a couple of releases: one with some good ideas; one best left forgotten. But whatever the case, *Fallout* was long from being pronounced dead.

In 2001, *Fallout Tactics* arrived – a spin-off focusing entirely on the combat aspects of the original two games, it was a decent foray into a world like Jagged Alliance, though the 'tactical' aspect went down the drain a bit and it ended up being a lot more run-and-gun than might be expected.

"I was very happy with what the developer Micro Forte did with *Fallout Tactics*," Chris Taylor, who acted as senior designer on the game, says, "But I'll admit that it wasn't exactly the game that we envisioned early in the project's preproduction. When games are nothing but ideas, it's easy to get excited about the concept of a game. Then reality usually steps in. Compromises are made. In *Fallout Tactics*' case, it shipped earlier than it should have. It could have used a little more time baking."

While *Tactics* was appreciated by some, and has grown in prestige as the years passed, the other spin-off Interplay managed to get out – *Fallout: Brotherhood Of Steel* – was less well-received. A consoleified version of *Fallout* ala *Baldur's Gate: Dark Alliance*, the game was, at best, dull. At worst? A stain on the reputation of the series. But Interplay wasn't just focused on the spin-offs – it was working on an actual *Fallout 3*.

Codenamed *Van Buren*, Interplay's take on *Fallout 3* never made it to a finished state before it was cancelled. "Brian Fargo was gone by that point," Chris Avellone explains. "And the vision for the company went along with him. And while we knew the company needed to turn a profit, we were starting to feel it in the trenches." The first *Fallout 3* was cancelled, and ultimately the franchise moved on to new owners, with its original custodian Interplay – eventually – losing all rights to *Fallout*.

In 2008, we saw something unexpected: the studio behind the *Elder Scrolls* series of first-person role-playing games had released its own version of *Fallout 3*. It was an immediate hit, immersing players in a post-apocalyptic wasteland (obviously) of Washington DC – changing things up significantly, while at the same time keeping the fundamentals, like the SPECIAL and VATS targeting systems, as they were. It was brand new and exciting, while at the same time completely familiar.

"There was always a desire in those days to make Bethesda Game Studios into more than just 'the *Elder Scrolls* team'," explains Gavin Carter, lead producer on *Fallout 3*. "There was a lot of musing about what might

» The iconography throughout the whole *Fallout* series has been a constant high point, with many ads the sort of thing you'd want printed out hanging from your walls.

make a great second project. I don't recall the exact moment I found out that it was going to be *Fallout*, but it was definitely in our conversations. I remember it moved quite rapidly from 'wouldn't it be cool if…' to 'maybe there's a chance but don't get your hopes up,' to 'time to start project planning.'"

Fallout 3 presented a detailed, vast world placed right in front of the player – and a shift back to the more straight-faced serious tone of the original game. After all, war is *supposed* to be hell. It was an intentional move in tone, Gavin tells us, because – while the second mainline *Fallout* game is an all-time great – these things felt like distractions to the team at Bethesda. "We wanted to more fully realise a vision of a post-apocalyptic future," he says, "And felt that too much humour pulled you out of the experience more than it contributed."

The move into sci-fi, away from the studio's usual fantasy, was a challenge the team was willing to take on. While its detractors would call it '*Oblivion* with guns', the fact is *Fallout 3* was a huge accomplishment for Bethesda and the series as a whole. And it was a positive experience for the team working on it too, contrary to the years previous over at Interplay: "I remember watching people work for months to get the ending Liberty Prime sequence just right," Gavin Carter says, "The PS3 team crunching for weeks to fix a VATS crash bug, playing VATS after Todd [Howard] and a programmer and artist huddled on it for two weeks and finally got it working well… concept art feedback meetings – 'That minigun looks way too much like a Dyson vacuum, sorry,' walking by cubicles and seeing our VFX artist with a curtain and a warning sign up because he was gathering gore reference, the first time we got dismemberment working and were blowing up 3D people over and over again."

Bethesda had to return to its *Elder Scrolls* series, moving on to what became *Skyrim* – but it didn't want to leave *Fallout* behind, so it turned to Obsidian Entertainment, a studio made up of many folks who worked on the first two *Fallout* games, as well as the cancelled *Van Buren*. "The team was working on ▶

» Imagine a mudcrab gone nuclear with its angry dad behind it, and that's all the explanation you'll ever need for this situation.

NUKED

The cancelled games of Fallout

FALLOUT EXTREME

CANCELLED: 2000 / **PLATFORM:** PS2, XBOX

■ A tactical shooter playable from a first or third-person perspective, *Fallout Extreme* never made it past the conceptual stage. Which is a shame, as on paper it sounded like *Hired Guns* in the *Fallout* universe. The planned storyline would take players outside of the US, into territories such as Russia, Mongolia and – ultimately – China, marking the first time a *Fallout* game would have left the States. *Extreme* was cancelled after little more than an outline and some concept sketches were made.

FALLOUT TACTICS 2

CANCELLED: 2001 / **PLATFORM:** PC

■ Around the time the original *Tactics* released, preproduction work began on a sequel. Sadly sales of the first game weren't up to expected levels, and Interplay cancelled the project. Surviving today are some sketches of mutant crocodiles – it would have taken place in areas such as Florida – and a general idea behind the story, which would have incorporated an irradiated GECK. The resultant mutated Garden Of Eden would have been a cool twist on *Fallout*'s eternal quest to restore a perfect world.

VAN BUREN

CANCELLED: 2003 / **PLATFORM:** PC

■ Created using the engine Black Isle made for *Baldur's Gate 3* (also cancelled), this original incarnation of *Fallout 3* was under the stewardship of eventual *New Vegas* alums Chris Avellone and Josh Sawyer. Set across Arizona, Nevada, Colorado and Utah, the game would see players in the role as a prisoner and some tweaks to established systems, like SPECIAL. A tech demo was released, but ultimately Interplay decided to channel funds towards *Icewind Dale* instead, and the project died.

FALLOUT: BROTHERHOOD OF STEEL 2

CANCELLED: 2004 / **PLATFORM:** PS2

■ A bit of a double-edged one this: it's sad that *BOS2* never released, as it was close to completion when development was shut down thanks to Interplay layoffs. On the other hand, the first game was pretty much awful, so it doesn't feel like the greatest loss. The sequel did feature elements like Caeser's Legion and the Jackals – both borrowed from *Van Buren* and both making an appearance in *New Vegas* – as well as another appearance of the irradiated GECK. Still, it wasn't to be.

PROJECT V13

CANCELLED: 2012 / **PLATFORM:** PC

■ *V13* was the name of two projects from Interplay and a reformed Black Isle Studios. The first was an MMO, *Fallout Online*, which was put together by Masthead Studios with Interplay as publisher – a legal dispute from Bethesda popped up, and the project was cancelled. A second attempt saw *V13* rebranded as nothing to do with *Fallout*, tried to raise money via crowdfunding, then quietly disappeared some time after with nothing to show for it.

WORLDS OF TOMORROW

Six of the best Fallout vaults

VAULT 108 CLONING

FALLOUT 3

■ Cloning to perpetuate a populace makes sense in a limited genetic pool situation like being in a vault, but only if more than one person is cloned. Sadly, Vault 108 ended up just cloning Gary over and over again, resulting in a group of vault dwellers violently aggressive towards anyone not called – or saying, repeatedly – 'Gary'.

VAULT 13 PROLONGED ISOLATION

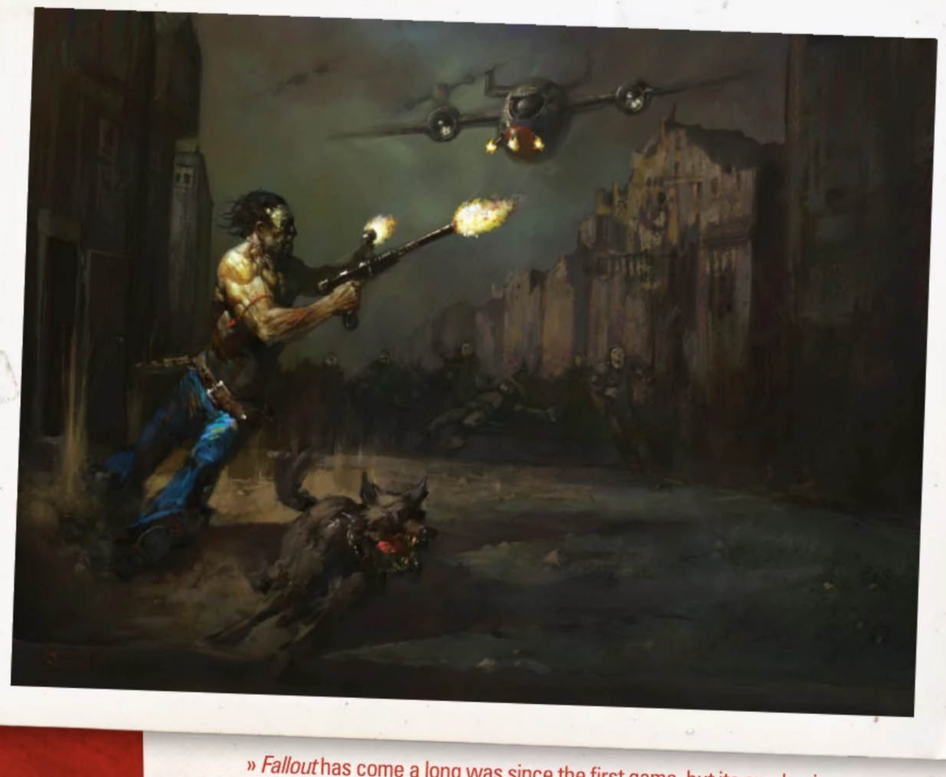
FALLOUT 2

■ The original Vault 13 was meant to be a control; never opened in order to study the effects of prolonged isolation. It was opened up in the first game, though, and by the time it's revisited in the second game has been colonised by a group of intelligent, speaking deathclaws. They say more than just 'Gary'.

VAULT 75 ENHANCE THE GENE POOL

FALLOUT 4

■ Built under a school, every student and parent had a place in Vault 75 – only when the door closed, adults and children were split, the former executed, and the latter had experiments and intense learning experiments performed on them to make them 'better' people. The experiment, you'll be unsurprised to learn, failed.



» *Fallout* has come a long was since the first game, but its emphasis on survival in a hostile, familiar world still endures.

▶ *Fallout 3* DLC and getting ramped up and excited about *Skyrim*," Gavin explains. "So they understood we couldn't do everything on our own. I think people also realised that the choice to work with Obsidian, given their history with the franchise and the quality of work that they do, was a smart one." *Fallout: New Vegas* was the ultimate result, and ended up another example of a fine game arriving despite almost everything behind the scenes working against it.

"The biggest problem was just scope," Chris Avellone explains. "The game was too big and there was too much added in the time frame – and as we neared the ship date, the game still had a lot of bugs that were unaddressed." Patches came, but they impacted the upcoming DLC, which required more work – and the pattern repeated. "It was even more difficult than it sounds," he continues. "Because the patches and the fixes became moving targets as balancing changes started getting introduced with

VAULT 22

UNDERGROUND ALLOTMENT

FALLOUT: NEW VEGAS

■ Making Vault 22 the place where its denizens would be kept alive just by using things grown inside it is another experiment from Vault-Tec that sort of made sense. Sadly, a mutagenic fungus managed to make its way inside and things went downhill, fast. Heed the sign outside that says 'THE PLANTS KILL' – it doesn't lie.

VAULT 8

CONTROL

FALLOUT 2

■ A vault designed and manufactured correctly, set to open on time and with a population that set about rebuilding soon after it received the all-clear? Where's the fun in that? Well, Vault 8 – and Vault City, which sprang from it – shows just how well things could have gone were it not for all the wacky experiments going on elsewhere.

VAULT 12

RADIATION EFFECTS ON HUMANS

FALLOUT

■ How to test the effects of radiation on people where they're in a radiation-proof bunker? Just don't close the gigantic door and let the green stuff flow in. This horrific fate met the denizens of Vault 12, and those who survived were turned into ghouls. They made the most of it, and the city of Necropolis was formed after the war.

> ***"THE GAME WAS TOO BIG AND THERE WAS TOO MUCH ADDED IN THE TIME FRAME"***
> *Chris Avellone*

patches, and sometimes those would break critical path quests."

New Vegas was riddled with bugs – released too soon, it had some game-breaking issues and was immediately lambasted for performance issues across all formats. While it went on to become one of the most beloved entries to the series – with deep systems of interaction and role-playing, it really harked back to the original Black Isle titles – the initial reaction was enough to make people think this had been a misstep. And then there is the infamous Metacritic scoring incident, where Obsidian had been promised performance-based incentives for achieving a Metacritic rating of 85 or above. *New Vegas* ended up on 84. People lost their jobs as no bonus came in.

Despite all of that, *New Vegas* went down as a cult classic and has, over the years, cemented itself as the best in the series for a certain subsection of the *Fallout* fanbase. Fixed with subsequent patches and added to with some genuinely brilliant DLC expansions, *New Vegas* served as the balance between Bethesda's new 3D approach, and Black Isle/Interplay's focus on traditional RPG mechanics. But the experience was fraught, and Obsidian's crack of the whip proved a one-off.

» Few areas in the whole series capture the horror of a nuclear wasteland quite like the fourth game's Glowing Sea.

Bethesda did of course return to the sci-fi series with *Fallout 4* – another step away from the pure form of the original, bringing in elements of construction and crafting… as well as paid-for mods. While well-received in its own right, the fourth game was never going to hit all the right notes with the old school purists. A good game? Definitely. A great *Fallout* game? That's up for debate.

Fallout is a series that has changed a gigantic amount since its inception – possibly more than any other series in gaming. At the same time, however, its central themes of the apocalypse, the fundamental nature of humanity, and the need for some sturdy rope in a survival situation have all passed through the decades to make up core tenets of the series. It's different to what it used to be, but it is still loved – even by the creator who abandoned it: "*Fallout* will always be my baby, even if it was adopted by another family," says Tim Cain.

An additional bonus of *Fallout*'s success has been the resurrection of the series that inspired it. Brian Fargo's current studio, InXile, was able to crowdfund *Wasteland 2* – "Everything I learned from *Wasteland* I put into *Fallout* and everything I learned from *Fallout* I put into *Wasteland 2*," Brian Fargo tells us – back in 2014, and at the time of writing work is underway on *Wasteland 3*, with none other than Chris Avellone contributing. "[There's a lot of *Van Buren* in] *Wasteland 3*," he says, "We used a lot of the pillars of *Van Buren* to guide design decisions in tandem with the Lead Designer, George Ziets, who took the high-level concepts and then made them appropriate for the *Fallout* universe."

Meanwhile, Bethesda has knocked together something we never thought we'd see: an online version of *Fallout*. Bringing together multiplayer and the wasteland is something that's been talked about – and tried – since day one, but it took some 21 years to make it happen. This is a new era: one of exploration and discovery, less of reading walls of text and relying on tabletop mechanics. And if anyone can truly set the world on fire, it's probably going to be Bethesda. If only because Interplay legally can't. ✱

» That feeling when *New Vegas*' town of Novac's name suddenly makes sense to you.

THE MAKING OF

SONIC ADVENTURE

IF THE DREAMCAST WAS GOING TO SUCCEED IN ITS MAKE-OR-BREAK MISSION, IT NEEDED STAR POWER – IT NEEDED SONIC. BUT SONIC NEEDED A REVAMP. WE SPEAK TO **TAKASHI IIZUKA** AND **KAZUYUKI HOSHINO** TO LEARN HOW SEGA'S HERO WAS REINVENTED FOR HIS 3D DEBUT

Words by Nick Thorpe

TAKASHI IIZUKA
DIRECTOR

KAZUYUKI HOSHINO
ART DIRECTOR

The gaming audience can be a fickle one, and by the late Nineties Sega was certainly feeling the effects of having lost its affection. In the early part of the decade, the company had experienced explosive growth thanks to the success of the Mega Drive, driven by its charismatic mascot Sonic The Hedgehog. Sega broke Nintendo's virtual monopoly on the console market and joined it as a leader, before the company crashed down to earth as the over-engineered and expensive Sega Saturn failed to replicate the success of its predecessor. Sonic had suffered in those years – Sonic Team was busy on new projects like *NiGHTS Into Dreams*, and Sega Technical Institute's planned 3D platform game *Sonic X-treme* was cancelled, having collapsed under the weight of its own ambition. By mid-1997 Sonic had essentially been shuffled into the background, with his most recent game being *Sonic Jam*, a compilation of his Mega Drive adventures. Though the collection was excellent, it was astonishing to see that just six years after his debut, Sonic was already retro.

That change in status was not lost on Sonic Team, which began work on a new *Sonic* project immediately after *Sonic Jam*'s completion. "As we focused our time making new games and not *Sonic* games, we saw *Sonic*'s popularity drop and felt like we let down all the fans that had supported *Sonic* from the beginning," remembers Takashi Iizuka, director of *Sonic Adventure* and current *Sonic* series producer. But *Sonic*'s declining popularity wasn't just down to the lack of new games. "My impression was that Sonic had lost that fresh, new image he had when the character debuted. Almost all of that was gone and the character felt very safe, boring and conservative," explains *Sonic Adventure* art director Kazuyuki Hoshino. In short, Sonic needed a reboot. "We all took it upon ourselves to make another *Sonic* game – the best *Sonic* game to date – something that the fans would feel was worth the wait," says Iizuka.

» Flying allows Tails to take shortcuts, keeping him one step ahead of whoever he's racing at the time.

» This whale chase setpiece is a highlight of the very first action stage.

Sonic Team knew that a new *Sonic* game would have to be radically different to previous entries, as a 2D game like the Mega Drive classics just wouldn't cut it with the audience of the late Nineties. However, Iizuka had envisioned what a 3D *Sonic* game might look like as early as 1996, with a '*Sonic RPG*' proposal – little more than a one-page sketch showing how typical adventure game elements might work in a *Sonic* environment. Unfortunately, actually trying to implement this soon caused problems. "We made the first prototype for *Sonic Adventure* on the Saturn. However, when we set out to create a 3D world for Sonic to be able to run around in freely we hit a wall with what the Saturn was able to do," explains Iizuka. "That's when we heard of the new Dreamcast hardware that would excel in representing a 3D environment. The Sega Saturn

ADVENTURING PARTY

Who's who in Sonic Adventure? Meet the cast here

SONIC

THE HEDGEHOG

STAGE GOAL: REACH THE FINISH LINE

■ The blue blur is back with his trademark spindash, and he's got some new moves. He's got a homing attack to help target enemies in 3D space. With the Light Speed Shoes he gains the Light Dash – the ability to fly across any path of rings. The Ancient Light upgrades this to a Light Speed Attack, which takes out all nearby foes.

STAGE GOAL: FINISH THE STAGE BEFORE YOUR OPPONENT

■ Tails can still fly, which is useful for taking shortcuts. He's now got a tail whip attack that allows him to take out enemies, too. If he picks up the Jet Anklet he'll increase his flying speed, and the Rhythm Badge gives him the ability to perform continuous tail attacks.

TAILS

MILES "TAILS" PROWER

KNUCKLES

THE ECHIDNA

STAGE GOAL: FIND THREE EMERALD SHARDS

■ The rough-and-ready echidna retains his ability to glide and climb. Upgrading with the Shovel Claw allows him to dig into soft ground for buried treasures, and the Fighting Gloves allow him to perform the extravagantly named Maximum Heat Knuckles Attack.

» Amy can only temporarily disable Zero with attacks, so running away is the better strategy.

» Just as in the 2D Sonic games, getting hit results in a loss of rings, and getting hit with no rings will cost you a life.

"WE WERE CONSTANTLY TRYING TO IMAGINE WHAT THE FINAL SPEC FOR THE [DREAMCAST] MIGHT BE"

Takashi Iizuka

▶ was very good at utilising manipulated sprites to present a display that represented polygons, but the Dreamcast was a true 3D processing machine, so it was perfect for developing *Sonic Adventure*."

The timing of the new game with the new hardware project turned out to be fortuitous, as Sonic Team could shape the Dreamcast to match its needs. "To create a 3D stage where Sonic could run around at high speed, we needed a lot of internal memory on the hardware," says Iizuka. "Since the Dreamcast was still in the planning stages of development, we were able to spec out the design for Sonic and then were able to put in a request to the hardware team about the required memory we would need in the machine, which really helped us execute on the design of the game." Of course, working on incomplete hardware also has its disadvantages, as Iizuka reminds us. "We started developing the game when the hardware was only about 30 per cent complete, so we were constantly trying to imagine what the final spec for the machine might be as we were creating the content."

Indeed, even with the ability to request plenty of memory, technical constraints were a real issue when creating *Sonic Adventure*'s stages. "Because the world you run through is a 3D world, all the stages had set heights and lengths. At the time, we all had Sonic's height marked down at one metre, but having Sonic that large and running that fast for a couple of minutes, one stage would have to be many kilometres long and the data required for a stage would get to very large sizes," explains Hoshino. "While it may seem obvious to state that we'd have to split up the levels into pieces that would fit the allotted memory size we had to work in, then read in the data for the next part of the stage on the fly and get rid of the parts of the stage that you passed by, a lot of that know-how and technique took a lot of time to research and figure out back in the day."

The art direction for the stages was easier to figure out. "As a Dreamcast launch title, we needed to be able to present the abilities of the machine in an appealing way to consumers. That was what our team was ordered to do. When we asked ourselves, 'What graphics give you the impression of being high-spec?' the answer we decided upon were graphics that were realistic," explains Hoshino. Although Sonic would still visit forests and coasts, he'd also run through cities and ruins, without the abstract representations of previous games.

The game called for such environments due to its story, which flashed between the present day and an ancient echidna tribe's past interactions with the water spirit Chaos. In order to enhance the game's realism, Sonic Team took an international trip. "Game

STAGE GOAL: EVADE ZERO AND FIND THE BALLOON TO ESCAPE

■ Amy relies on her hammer to bash enemies, and can use it to launch herself when running at her low top speed. She can also disguise herself with objects. The Warrior Feather gives her access to a spinning hammer attack, and the Long Hammer does what it says on the tin.

AMY

AMY ROSE

E-102

GAMMA

STAGE GOAL: DESTROY THE TARGET

■ E-102 is literally fuelled by destruction – he's always working against the clock, but can extend his time limit by destroying enemies. The more targets you take down at once, the greater the time extension. Grabbing the Jet Booster gives him the ability to hover after jumping, and the Laser Blaster widens his attack pattern.

STAGE GOAL: FISH FOR FROGGY

■ He's not fast or agile, but Big can still break down baddies with a swing of his fishing rod. Of course, he spends most of his time fishing. A variety of lure upgrades give him the ability to catch bigger fish, and the Power Rod increases his casting distance. The Life Belt enables him to float in water, though he can dive by pressing A.

BIG

THE CAT

IN THE KNOW

- **PUBLISHER:** SEGA
- **DEVELOPER:** SONIC TEAM
- **RELEASED:** 1998
- **PLATFORM:** DREAMCAST
- **GENRE:** PLATFORM

development up until then was all done with artists drawing all the textures by hand, but when developing on the Dreamcast, we were able to take real-life photos and use them as textures", Iizuka continues. "Because this was possible, we planned to take a trip out to not only see ancient ruins that were a key story point to the title first-hand, but also use it as a trip where we could gather assets for the game. We went to the very famous ruins in Central and South America: Chichen Itza, San Gervasio, Tikal, Machu Picchu, the Nazca Lines, and more. We took photos of the walls and materials in the real ruins and used those real photos as the assets in the game."

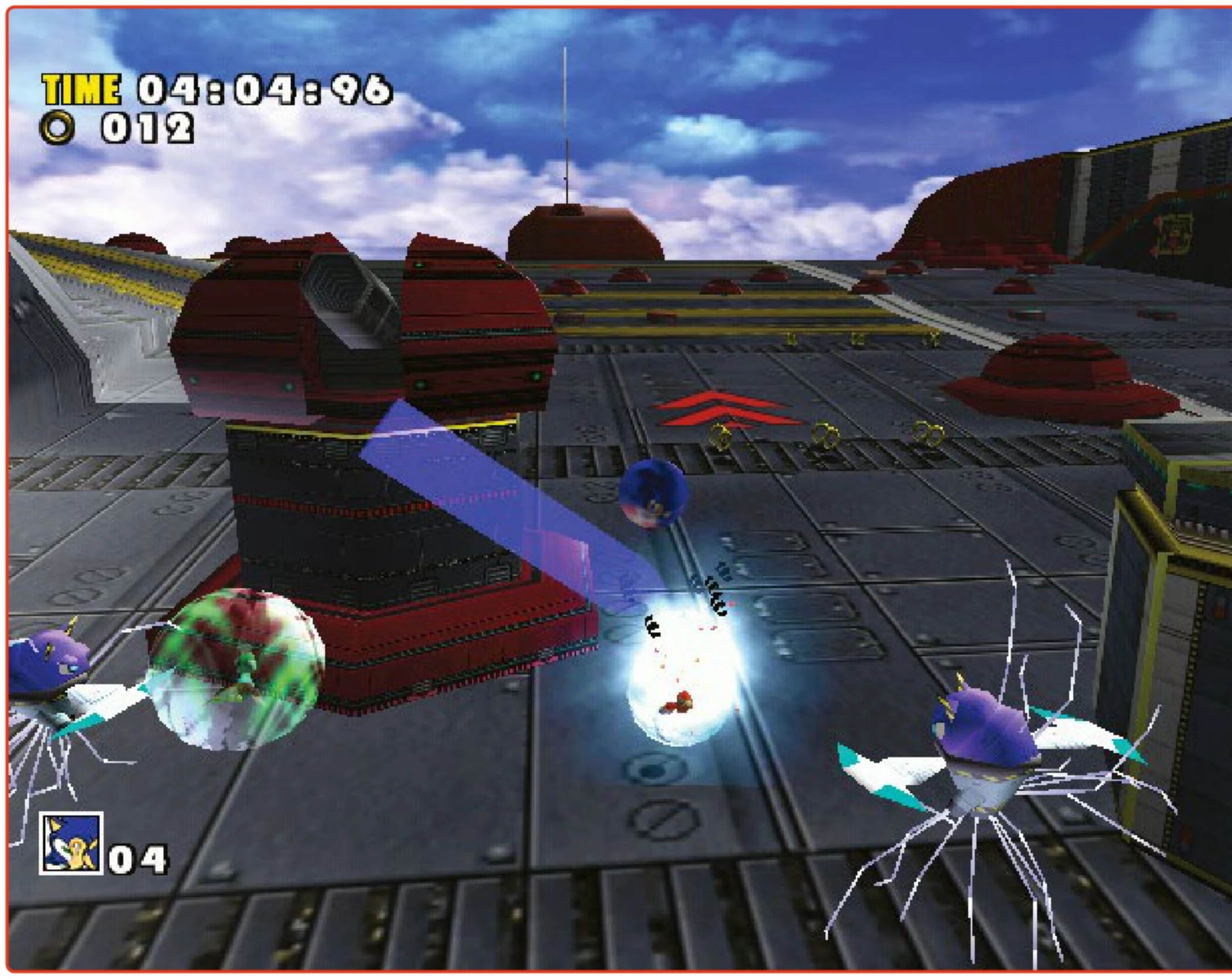
Having figured out how to create a large and detailed world for Sonic to explore, a bigger problem remained. Sonic had never inhabited a full-3D world before, and working out the game design required to make that enjoyable was a challenge. "For 2D classic *Sonic* games, if you kept going right, you'd be able to clear the goal line. Because there was that defined direction inherent in the gameplay we were able

GET A-LIFE

How Sonic jumped on the virtual pet boom

One of the more popular diversions in *Sonic Adventure* is the ability to raise the small Chao creatures – a concept that actually has its roots in a previous Sonic Team title. "The Nightopians (A-Life system) in *NiGHTS* were put in to change the game in areas where there weren't any obstacles. I think it was very successful in providing a fresh experience every time you play," explains Iizuka. "I created the Chao Garden as a way of applying the A-Life idea to the *Sonic* universe, to make sure there was some motivation to repeated playing of the same stages. That's why you get the small animals in the action stages, and that's why the Chao can be raised and cared for." The Chao can be found and raised in three Chao Gardens, each of which is connected to an Adventure Field. By bringing the small animals you find in regular stages to Chao, they'll gain statistical boosts and change in appearance, often taking on the characteristics of the animals they meet.

Since the game arrived during the height of the Tamagotchi craze, it's also possible to take your Chao out with you on the Dreamcast's VMU, via the minigame Chao Adventure. This simple game allows your Chao to encounter Sonic and friends and get into fights. In the GameCube version, the Game Boy Advance is used to host the more involved Tiny Chao Garden. Once you've got a world-beating Chao, you can take it to the races in the main game and try to win some emblems.



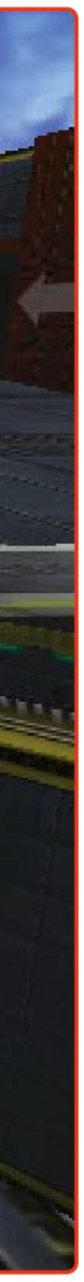
» Wandering around a city environment and talking to humans was a pretty radical new direction for the *Sonic* series back in 1998.

▶ to create the high-speed progression," says Iizuka. "Once we went to a 3D world where you could run in any direction, you ultimately were never sure of where to go. This sort of gameplay required a completely different type of level design. In the very beginning we were building out the model for the stage, playing, then throwing out to remake, replay and throw it all out again and again till we got it right."

Solving the problem required the use of a tool that hadn't been particularly prominent in 2D game design. "When we were right in all the trial and error for level design, I picked up on the role and functionality of the camera," Iizuka recalls. "2D Sonic would always be moving to the right of the display, and in a similar way, if we had the camera showing the direction that 3D Sonic should be running towards (into the world) in front of you, I thought we should be able to make any sort of complex 3D stage that you could get to the end of by continually going 'up' on the controller (moving forward in the world). After thinking up this camera system, we tried it out on Speed Highway and found it was successful!" Where other 3D platform games always show a view from behind the character, *Sonic Adventure*'s camera system is more heavily directed by the game designers, corresponding more to the stage progression than the player's direction of travel. You'll be pointed around bends as the camera turns to face your next destination, and the camera often pulls out for spectacular shots during loops or other obstacles.

Although the stages were primarily designed around Sonic's need for expansive locations, the game features five other characters with their own styles of gameplay. "It took so much more time to create the 3D worlds for Sonic to run around in than we ever imagined. We felt it was a waste if Sonic just quickly ran through the levels that we spent so much time creating, so I thought of ways we could leverage our assets effectively, and from that was born the six playable characters each with their unique playstyle," says Iizuka. "Now that we had unique characters, I figured they should each have their own stories to follow and goals to accomplish, then I thought it would be interesting if all the stories had some connection to each other, so we wrote a story and then told that story through the six perspectives of the unique characters."

The first three characters were all familiar to Sonic fans. Tails' gameplay typically adapted portions of Sonic's stages into one-on-one races. Knuckles' game was designed to contrast with Sonic's. "Since the gameplay for Sonic was about running through the various set routes, I wanted to add gameplay elements where you could move around in any direction inside of the 3D space. Since Knuckles' original bio had him as a treasure hunter, I instantly had the idea of making some treasure hunting gameplay in the 3D universe," explains Iizuka. Amy Rose also became playable for the first time, with Iizuka choosing a less combat-oriented style despite her squeaky hammer weapon. "The other characters all engage in aggressive behaviour as the core 'fun' and emotional satisfaction in the game, so I wanted to include some gameplay that was more about the thrill of technical gameplay," explains the designer. "Hiding out of sight from pursuers, having to run and hide after an enemy pops out of nowhere – I wanted this game to



> "IT TOOK MORE TIME TO CREATE THE 3D WORLDS FOR SONIC TO RUN AROUND IN THAN WE EVER IMAGINED"
>
> Takashi Iizuka

have thrills and tension that wouldn't exist if the playable character was Sonic."

Two new characters were also added, including E-102 Gamma – the first playable character to explore Eggman's side. "The first thing I thought about for Gamma was gameplay. I wanted some type of satisfying gameplay that couldn't be done with Sonic – that was shooting. When thinking about what sort of character would shoot, having one of Eggman's robots be a playable character first came to mind," says Iizuka. "Looking back, the story was very interesting because we were able to express the feelings of a robot following Eggman's orders, as well as showing the animals locked inside." The most unusual inclusion was that of Big The Cat, who brought something truly unique. "We had high-speed action, treasure hunting, shooting – tons of content to really challenge the level designers and creators, so I wanted one of the games that was going to be something fun and completely different from the other types of gameplay being offered," explains Iizuka. "That's when I thought, if we have water on the map we can present the player with a fishing game. I told the character designer I wanted a giant, relaxed character so the players wouldn't mistake the gameplay on the level as something intense."

In order to provide hub worlds to join up those action stages, the team implemented Adventure Fields, which were a new concept in the *Sonic* series. These also provided locations for story events and boss fights. "*Sonic Adventure*, just as the title suggests, was a platform action game with the addition of adventure elements, and we wanted to deliver that feeling of experiencing an epic story and epic adventure," Iizuka explains. "We implemented the Adventure Fields as somewhere you could ask locals about things,

» E-102 Gamma's lock-on shooting gameplay is highly explosive and often results in some quite spectacular scenes.

CONVERSION CAPERS

The adventure continued after the Dreamcast – how did it progress?

GAMECUBE (2003)

■ *Sonic Adventure DX: Director's Cut* adds revamped character models, some bonus missions, the ability to play as Metal Sonic and 12 playable Game Gear games. The Chao system has also been upgraded in line with *Sonic Adventure 2*. However, it suffers a number of graphical downgrades – the lighting and many effects have been downgraded or removed, and texture quality is generally inferior. The game now targets 60fps but frequently struggles to maintain it. This also causes bugs with game logic, as the timing code for many objects wasn't adjusted.

PC (2004)

■ The original release of *Sonic Adventure* for PC was based on the GameCube version, and offers the best quality FMV of all releases as well as support for high-res displays. However, it suffers from texture downgrades and incorrectly handled lighting. Music doesn't loop as files use the WMA format, which also offers inferior compression, and some sounds also play too quietly. This version is popular with modders, who have managed to use the Dreamcast files to circumvent most of the downgrades, as well as adding widescreen support, bug fixes and more.

XBOX 360/PS3/PC (2010)

■ These console versions are both based on the PC version, and fix up its lighting and lack of mipmapping. The framerate is also stabled due to the use of modern hardware. However, some sounds are too loud and the sound effects and voice clips also have quality issues. The Xbox 360 version is available as a standalone release or as part of the *Dreamcast Collection*, alongside *Crazy Taxi*, *Space Channel 5 Part 2* and *Sega Bass Fishing*. It also works with Xbox One. The PS3 version was only released digitally, and a Steam PC release followed in 2011.

» This wobbly road is completely absent from the finished version, which more closely resembles a race track in the sky.

LOST VALLEY

What's the story behind Sonic Adventure's most famous deleted area?

For many years, it was known that the Windy Valley stage had undergone a pretty radical redesign late in its development, as early screenshots and footage showed something very different to the final game. The final stage is centred on a sequence in which Sonic is pulled into a tornado, and features a number of pathways where he's carried between platforms by the wind. Though the stage was broadly similar in theme and flow in its prototype incarnation, the layout and visual treatment are completely different – the original version had many blue elements, plus arches and columns suggesting an old civilisation.

What wasn't well known was how and why the stage received its redesign. As it turns out, Takashi Iizuka was the one behind the changes. "At the time I was the director on this title so there was never a plan for me to do level design, but our schedule was running tight and we had no one available who could clean up the partially completed Windy Valley, so I stepped in and remade it from scratch," he replies when asked about the stage.

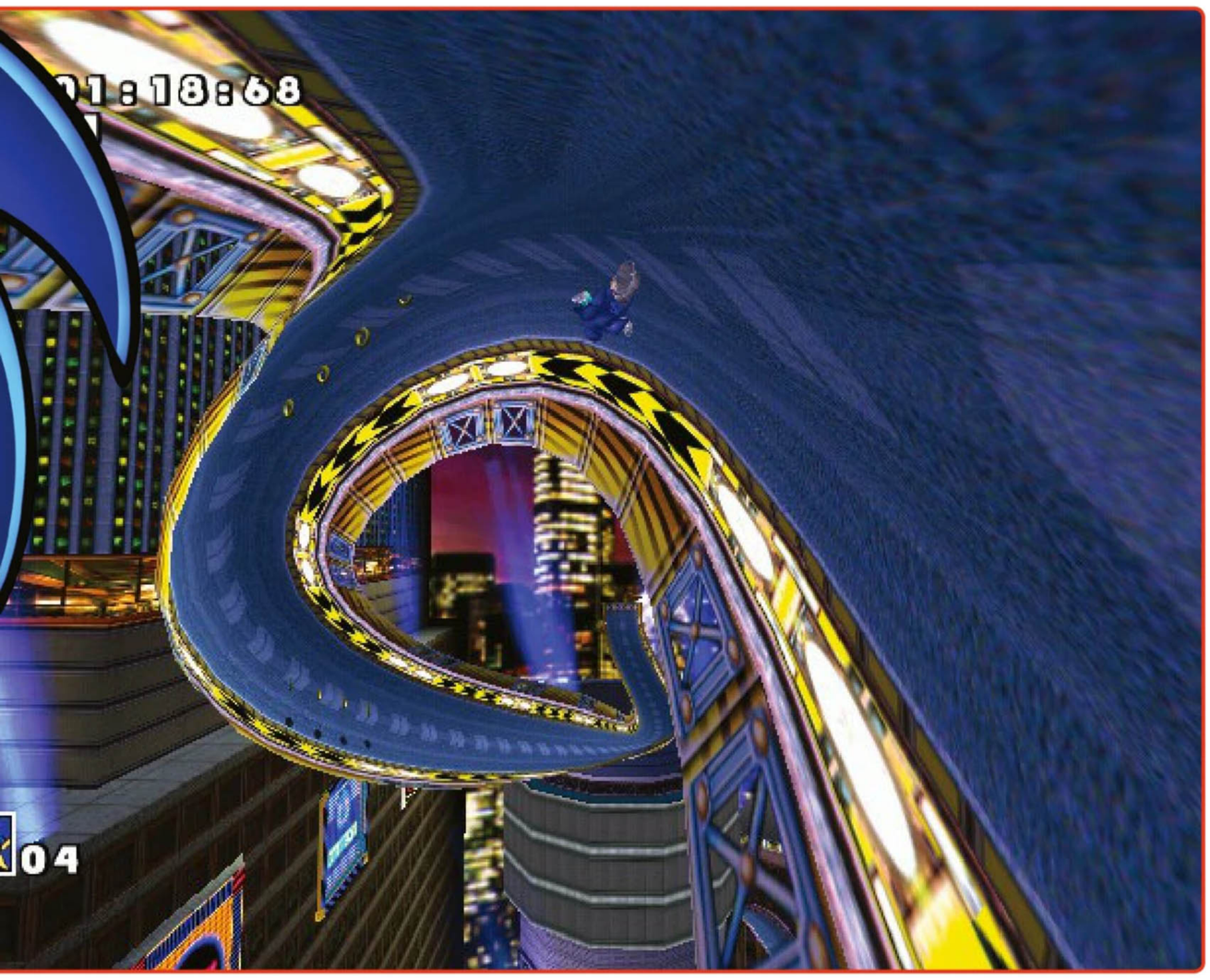
» The prototype version of Windy Valley offers greater scope for exploration than the more linear finished stage.

The models for the old version were eventually found in the *Sonic Adventure* Autodemo, a rolling demonstration disc intended for store displays, and fan ItsEasyActually has restored the stage using a mixture of the existing assets and recreated ones based on early screens and footage. It's easy to see why the changes were made – unlike the race track style of the final game's levels, the prototype Windy Valley is open and sprawling, and your destination is not as immediately clear as it is when playing the stages in the final game. Still, it remains a fascinating example of how the game's level design philosophy evolved during its development period.

» The scrapped level geometry was taken from the demo intact, and is rougher than anything found in the final game.

▶ gather power-up items, and create places to explore and get lost in. The Adventure Fields were there to draw the players deeper into the world." These power-up items were also a new concept, giving characters new attacking and movement options as the game progressed. "In the spirit of an action RPG, we wanted to make locations that could only be accessed after receiving some new power, or by making certain difficult areas passable with a new ability – that was the inspiration behind the power-up items," Iizuka continues. "I was probably inspired in some way through the *Legend Of Zelda* series that I loved so much."

The existing characters had been tricky to represent well in 3D. However, the feeling that *Sonic*'s design was dated allowed the art team to give the entire cast a refresh. "*Space Invaders* and *Pac-Man* were becoming popular again as retro games and characters, and they were popping up in indie music and urban 'street' fashion, so they were very interesting and attractive," Hoshino recalls. "It made us jealous, and we wanted *Sonic* to also become popular with this edge of subculture, or at least have some cool T-shirts being made with Sonic on them. I was thinking that, and there were other designers that were thinking the same thing, so we all got together to try and find this new graphic style for *Sonic*." New illustrations were produced, with



» The twists and loops that made the original game famous returned, and were arguably even more exciting in 3D.

» Despite Big's relatively low number of series appearances, he retains a cult fan following.

characters sporting longer limbs and twisted styles. "What it boiled down to be was a graphic style and pose that was more aware of the fashion trends. The artwork was a good fit for the club music I was really into at the time," says the art director.

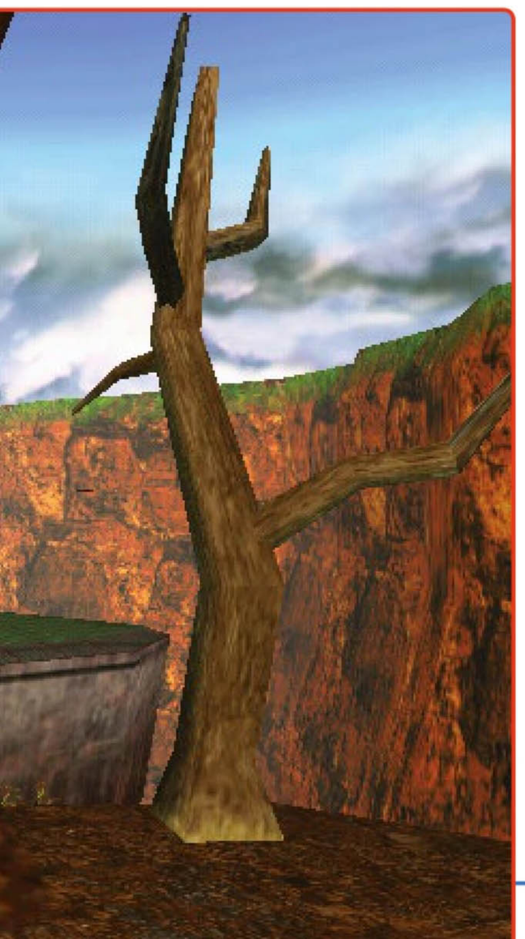
These weren't the only adjustments made to characters, as Sonic Team decided to try to introduce common international naming – which controversially meant renaming major characters, including Dr Robotnik. "In Japan, his name was always Dr Eggman, so as *Sonic* became more popular, we wanted to try and unify the names across regions," explains Iizuka. "The same actually applies to Miles 'Tails' Prower, who was known more commonly as 'Miles' in Japan – we changed it from the Japanese standard and started using 'Tails'."

Though the illustrations were 2D drawings, their new style helped when representing the characters in 3D. "The new Sonic design had longer arms and legs, but one could say the bigger solution to the problem was the ability to pose the character where everything looked good from a variety of angles," says Hoshino. This is a common issue when adapting character designs into full 3D. "Characters posing in 2D can be very easily faked to look cool, but there are a lot of instances where you try and represent the same pose with a 3D model and it really can't be reproduced," he explains. "An example would be Sonic crossing his arms. That was so difficult."

> "CHARACTERS POSING IN 2D CAN BE VERY EASILY FAKED TO LOOK COOL"
> Kazuyuki Hoshino

Artistic design was also of key importance when creating the game's antagonist. The team wanted to create something that could only have been realised on the Dreamcast, and came up with a creature named Chaos, who appears as a boss throughout the game. "What I was most excited about was the ability to represent semi-transparencies in-game. On the previous generations of hardware, it was difficult to represent something beautiful, so all the semitransparent effects we made for *Burning Rangers* took a lot of time to implement. However, this new machine was able to easily implement and use these effects wherever you wanted them," explains Hoshino. "One of [the] key benchmarks for quality videogame graphics is the representation of water. No matter what hardware generation you are developing games on, we have been working on techniques for representing water, and are always looking at how other companies and other teams are representing water in the games they make. We thought Chaos, who is a strong, yet fluid and beautiful representation of water, would be a perfect symbol for the game on this new hardware."

For audio, the decision was made to include full voice acting for the first time, with Jun'ichi Kanemaru and Ryan Drummond chosen to voice Sonic himself. Musically, lead composer Jun Senoue decided to retain some of the classic *Sonic* sound while adding a harder edge. Jingles he'd composed for *Sonic 3,* including the act clear music returned, and a couple of his tracks from the Mega Drive version of *Sonic 3D* were repurposed for Twinkle Park and Windy Valley. However, the original tracks showcased Senoue's background as a guitarist with a new hard rock



» Knuckles gained the ability to dig through the dirt for treasure – here, he's managed to unearth a single ring.

» It's possible to see some very nice views when Sonic gets some height using a spring or a trampoline.

» Not everyone was a fan of the inclusion of fishing in the game, especially as it can be quite tricky.

▶ sound, with character themes featuring vocals from Ted Poley (Danger Danger) and Tony Harnell (TNT). Hardline's Johnny Gioeli provided the vocals for the main theme, titled *Open Your Heart*, beginning a long partnership with Senoue – they continue to perform together as Crush 40 today.

Sonic Adventure was released in Japan on 23 December 1998, arriving within the first month of the hardware's release. But it wasn't quite the game that Sonic Team had wanted it to be. "*Sonic Adventure* was a launch title for the very first release of the Dreamcast hardware in Japan, so the schedule for the title was tight. Even though there were issues we wanted to fix with the game content and more polish we wanted to put into the title, but the position we were in made us give up on addressing everything we wanted to – we had to deliver the game on time," laments Iizuka. However, Sonic Team had the chance to improve the game post-launch, a rare opportunity in those days. "Shortly after, when we were creating the English version of the game, there was plenty of time before the release of the Dreamcast in the western market and we had a lot of staff who were eager to work. So we didn't just do a straight-up localisation of the title, we included a lot of improvements and polish to the game that wasn't in the original Japanese release." This version accompanied the American release of the console on 9 September 1999, and was rereleased in Japan as *Sonic Adventure International*.

» Later stages introduce trickier challenges – this stone snake must be ridden between switches, each raising the water level.

"I WAS SO NERVOUS I THOUGHT MY HEART WAS GOING TO BURST OUT OF MY CHEST"

Takashi Iizuka

Sonic Adventure drew critical acclaim from the press. Arcade praised the game for "performing graphical trickery at a level never before seen on a home console," while CVG liked the fact that the six characters allowed you to enjoy the same stages in different ways. Dreamcast Magazine praised the action stages, noting that they "really can take your breath away," and Edge also felt that "level design is strong, although the best moments […] are left until later areas." Some criticisms were offered – *Dreamcast Magazine* noted that "the 3D camera angle fails at times". *Arcade* felt that "occasionally you feel like a passenger on a rollercoaster", and *Dreamcast Magazine* described Big's minigame as "slightly less exciting than looking at grass". In summary, *Edge* noted that "Sega hasn't made the mistake of attempting to turn *Sonic* into *Mario*, instead building on what made the previous *Sonic* titles a success, and in the process recreating the true feel of a classic 2D platform game in 3D for perhaps the first time." Review scores include 90% from *Dreamcast Magazine*, 5/5 ratings from both *CVG* and *Arcade*, and 8/10 from *Edge*. While the Dreamcast was ultimately not a commercial success, *Sonic Adventure* definitely was – it was the format's bestselling game, selling 2.5 million copies.

Such an important project is bound to have some sentimental value attached to it, and both Iizuka and Hoshino have fond memories of making Sonic Adventure. "For me, the location scouting trip to Central and South America is a very important experience. While the trip was extremely valuable to the development of the title, I was able to go to countries I wouldn't easily be able to travel out to, and I was able to see just how people live in these countries," says Hoshino. "I gained a lot of knowledge from that trip and

DEVELOPER HIGHLIGHTS

NIGHTS INTO DREAMS
SYSTEM: SATURN
YEAR: 1996

BURNING RANGERS (PICTURED)
SYSTEM: SATURN
YEAR: 1998

PHANTASY STAR ONLINE
SYSTEM: DREAMCAST
YEAR: 2000

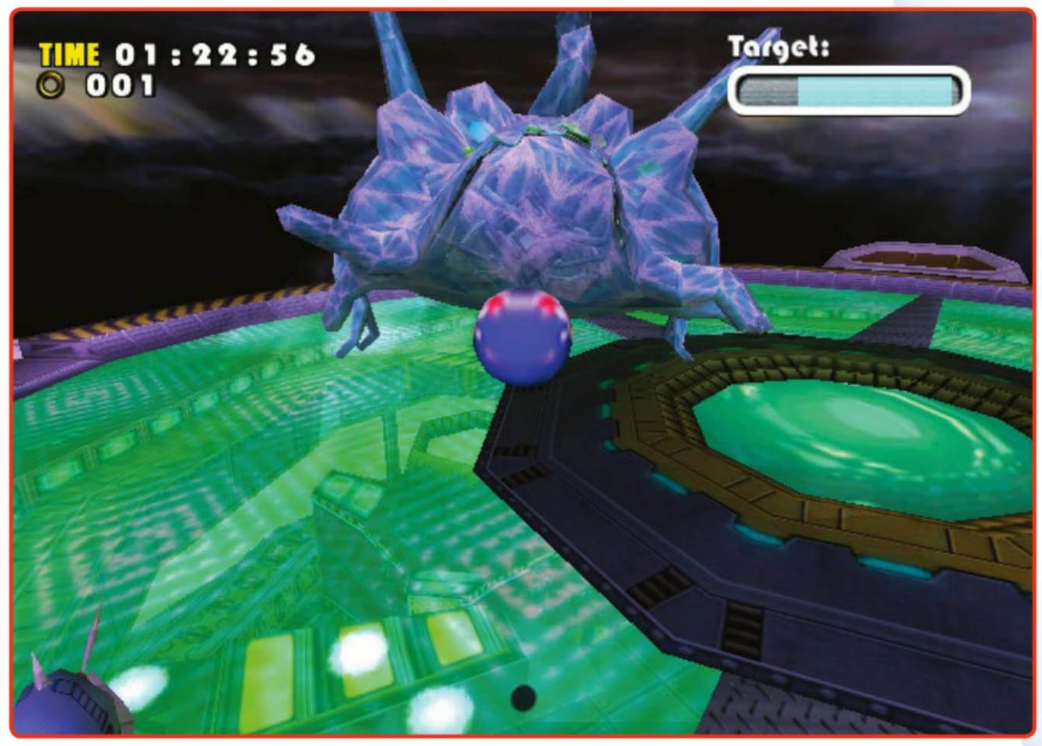
» Casinopolis is an interesting nonlinear stage in which your goal is to win 400 rings by playing pinball tables.

felt like it enabled me to break out of the cultural and societal norms I grew up in, which has enriched my personal and professional life ever since."

For Iizuka, the game's announcement at Tokyo International Forum was a highlight. "The most memorable moment for me was the announcement of *Sonic Adventure*. The hall fit 5,000 people and I was up there three times, but that was the first time I had ever been on stage in front of consumers and I was so nervous I thought my heart was going to burst out of my chest," recalls the director. "I was on stage to play Speed Highway in a live environment. On my first stage event I was able to play really well and made no mistakes, so I was able to calm down, but the other guys told me, 'Hey, if you are too good, people are going to think we are just playing back a recorded demo video. Can you make a mistake next time?'"

20 years on, plenty of fans still have fond memories of *Sonic Adventure* too. But what do the creators think keeps people coming back? "If I think of what the appeal of the title is, as a fan myself, I would have to say it is because each of the characters has such a deep story," says Hoshino. "The story continues still to this day and seems to be expanding instead of coming to an end. For example, one could probably still think, 'I bet Big is probably fishing right now.' In addition, I'm sure there is also the expectation that someday in the future we would make a sequel or continuation in the series."

Iizuka believes that it's the totality of the game, rather than any individual aspect. "It was the first high-speed 3D action game that also featured a scenario highlighted with six different stories, the A-Life Chao, six unique styles of gameplay – it is a unique game offering even 20 years after its release. At the time, it also wasn't just a solitary software release, it was the title to bring people to the Dreamcast and we were given the budget to make something to showcase the hardware," says the director, clearly proud of the team's accomplishments. "However, it was the very first 3D game that we worked on and looking at it now I can see the rough edges it has, which really makes me want to remake it again," he adds with a laugh. That comment is sure to bait the fans – and can you imagine *Sonic Adventure*'s ambition realised with today's tech? It's a tantalising prospect. Consider us on the hook, too.



» Boss fights play an important role in *Sonic Adventure*, and Chaos (currently frozen) is often your opponent.

DOWNLOADABLE DELIGHTS

Sonic Adventure made use of the Dreamcast's modem to download extra content – here's a look at what was available

SEASONAL CELEBRATIONS

■ Events were held to mark special occasions, beginning with a Christmas celebration for the game's 1998 launch which placed trees and music in Station Square. A New Year's Day 1999 event followed, and the first worldwide events celebrated the international Dreamcast launches. Twinkle Park received a Halloween makeover in 1999, and the final event celebrated New Year's Day 2000.

COMPETITIONS

■ These themed events allowed skilled players to win prizes. Japanese players could play item-finding contests in Station Square and Mystic Ruins, sponsored by Sega and *Famitsu*. American players received three cobranded AT&T/*Official Dreamcast Magazine* time attack events in Speed Highway, Red Mountain and Sand Hill. European players could hunt Reebok trainers in Emerald Coast.

SAMBA GP

■ In celebration of the release of *Samba De Amigo* for Dreamcast, this extra course for Twinkle Circuit was made available for download. Interestingly, this is one of six Twinkle Circuit courses that are on the disc, but normally unavailable in the game – the other five are completely unused. This was the final DLC made available for the game, released on 27 April 2000.

ALSO AVAILABLE...

■ After collecting a certain number of emblems in the game, users could download shiny Chao in rare colours. It was also possible to download menu themes that replaced the default announcer with character voices, but most of these files were only released in Japan.

RESI-RECTING

RESIDENT

EVIL 2

RESIDENT EVIL MIGHT HAVE POPULARISED SURVIVAL HORROR, BUT CAPCOM'S BLOOD-SOAKED SEQUEL TOOK THE STYLE TO NEW HEIGHTS. WE PERFORM A POST-MORTEM EXAMINATION ON THE GAME WITH THE MAN RESURRECTING IT FOR A NEW GENERATION, YOSHIAKI HIRABAYASHI

Words by Nick Thorpe

Sometimes, it's easy for players to fall into the trap of thinking that sequels are easy games to make – and that's far from the truth.

If your game is successful enough to warrant a follow-up, you have to identify exactly why that happened in the first place, then keep that magic while delivering enough new content and improvements to justify the spend to prospective players. And while many were successful in that regard, there are plenty of sequels that have disappointed players and faded into obscurity – for every *Tomb Raider II* there's a *Heart Of The Alien*, and for every *F-Zero X* there's a *Sparkster*.

Resident Evil 2 is a fine example of just how hard it can be to develop a sequel. Today, the game is considered to be one of the best games not just in its series, or even just on its host platforms, but of all time. It's one of the most beloved entries in a series with over two decades of heritage, so popular that it has received a remake with the resources of a wholly new production behind it. Yet it could have been so different, because almost a year into its development *Resident Evil 2* was a project in crisis. Hideki Kamiya, a promising developer had been chosen to lead the development of *Resident Evil 2* in his first directorial role. Shinji Mikami, the director of the first game, oversaw the game as a producer. Reportedly, the two developers clashed over the creative direction, and Mikami eventually took a hands-off approach, only requesting monthly updates on the game's progress. But with months to go until release, it became clear that the game that was being developed just wasn't a worthy successor.

Development was started over from scratch, with *Resident Evil: Director's Cut* put into production as an apology to the fans. Noboru Sugimura, a scriptwriter with many years of experience on TV shows, was drafted in by Capcom's development supervisor Yoshiki Okamoto to fix problems with the game's plot. Though it already featured many of the concepts that would ultimately make it to the final game, the existing story was unpolished and lacked a strong sense of connection to the world of the first game. While the concepts were retained, just about every asset was redeveloped from scratch – the backgrounds, character models and enemies.

Following the events of the first game, where players had to survive a zombie outbreak in a secluded mansion, the sequel moved events to neighbouring Raccoon City – a mid-sized town of about 100,000 people. The story begins with

» Unlike Claire, Leon's design remained mainly unchanged from the concept phase through to the final version.

» Leon and Claire are reunited in the STARS office, where Claire discovers that her brother has already left town.

» The Licker is one of *Resident Evil 2*'s most disgusting creations, and tougher than a two dollar steak.

▶ scientist William Birkin, a researcher working for Umbrella Corporation, the villainous pharmaceutical company and bioweapon research organisation behind the original game's events. William is working on the G-Virus, which is capable of turning humans into incredibly powerful and monstrous mutants. Fearing betrayal, he's planning to defect to another company. Having got wind of this double-cross, Umbrella sends agents to confront Birkin and retrieve both the G-Virus and samples of the T-Virus that was responsible for the first game's outbreak. After being shot, Birkin infects himself with the final remaining sample, mutating himself into a monstrous creature bent on vengeance, then chases down and kills the Umbrella agents. In doing so, the briefcase containing the T-Virus is destroyed, leading to the infection of some nearby rats. Within days, the town's drinking water supply is contaminated and most of the population is undead.

As the director of the *Resident Evil 2* remake, Capcom's Yoshiaki Hirabayashi has to know the original version inside out, and therefore possesses a keen insight into what makes the sequel so special – including its setting. "When the game was originally released I had yet to join Capcom – I was still a university student, and enjoyed it simply as a player. *Resident Evil 2* was actually my first *Resident Evil* game, so at the time I didn't have any reference point of the original game being set in a mansion compared to *Resident Evil 2*'s city," explains the *Resident Evil* veteran. However, his first work in the series was on the remake of the original game, so he's well-placed to explain how the games contrast with one another. "When I subsequently played *Resident Evil*, I thought the different settings brought out different strengths in each game – the atmosphere and claustrophobic single location of *Resident Evil*, and the larger-scale drama and entertainment of *RE2*," he continues.

It's easy to see his point, as *Resident Evil* was fairly sedate after its action-packed introductory FMV. The designers gradually ramped up the tension by introducing a missing team member, blood and then the first zombie – a shocking moment that doesn't come until a few screens into the game. *Resident Evil 2*'s introduction was also explosive – quite literally, as the two protagonists are separated by a blast caused by a zombified truck driver. But once the game begins, they're dropped straight into the streets of Raccoon City and surrounded by the flesh-munching undead. "I think that *Resident Evil* used its setting of being trapped in a single location to build up tension as the nature of the situation was revealed gradually," says Hirabayashi. "But when it came time to make the sequel, that was an established part of the story and it was probably seen as more effective to immediately message to the player just how much bigger in scale the situation is." Moving the action to Raccoon City allowed the developers to instantly convey the difference between the first game's relatively contained zombie outbreak and the complete catastrophe of the sequel

Of course, while the city streets are a great place to convey the scale of the outbreak, they lend themselves much more effectively to action than they do to the puzzles that were also an integral part of the first game. Additionally, the original game's mansion was such an iconic location that regular city streets just wouldn't match up. Luckily, *Resident Evil 2* has the Raccoon Police Department. Although you'll progress into the sewers and an underground laboratory before the game's end, it's this signature location that you'll spend most of your time in. Your modern cop shop might not sound like the scariest place (your own criminality or the local police corruption aside), nor like a natural place for obscure puzzles, but it works within the context of the game. "As some fans may know, the RPD building featured in the game is supposed to have been a former museum," Hirabayashi explains, before addressing the unusual puzzles. "We are still making a game here, so there will of course be some devices and so forth that you wouldn't see in real life, but don't you think that mixture of realistic elements and game-like elements is one of the great things

» This is your first encounter with the big, bad William Birkin – the game's primary antagonist.

"A POLICE STATION IS A GOOD CONTRAST WITH THE DANGER OF THE SITUATION THE CHARACTERS FIND THEMSELVES IN"

Yoshiaki Hirabayashi

about *Resident Evil*?" Absolutely. But it turns out there was one oddity that Hirabayashi couldn't get past: "I have always thought it was strange that the police station didn't have any toilets!"

This story helps to make a unique gaming location, albeit one lacking in certain convenient facilities. By choosing to deliberately fashion the RPD after something other than a modern police station, the background artists were able to create a location that serves a number of purposes. It can believably be seen as a police HQ, but could conceivably house oddities that wouldn't be found in a purpose-built station. Its Gothic architecture is simultaneously striking and intimidating – even before you realise that it's also crawling with the living dead. And as Hirabayashi notes, the very idea of a zombie outbreak in a police station is psychologically jarring. "I can't speak to the original development process – please don't think I speak on behalf of the original developers! – but my opinion is that a police station is a good contrast with the danger of the situation the characters find themselves in," says Hirabayashi. "It should be a safe place, so finding it to be such a dangerous place is a very interesting motif."

It's also worth noting that *Resident Evil 2*'s backgrounds were a significant step forward from those of the original game. As before, these ▶

» Yoshiaki Hirabayashi has been associated with the *Resident Evil* series since 2002.

» Zombie scientists are more associated with the original game, but show up in the underground laboratory late on.

THE LAST SURVIVORS

These people need to get out of Raccoon City alive – and it's your job to help them

LEON S KENNEDY

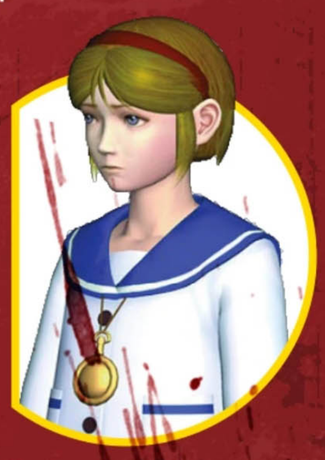
■ Leon arrives in Raccoon City to find complete chaos, rather than the welcome party for his first day of work at the Raccoon Police Department. He'd chosen that department because of the mysterious murders in the nearby Arklay Mountains, so he was going to meet zombies anyway. In case you were curious, his middle name is Scott.

ADA WONG

■ When we first meet Ada, she claims to be looking for her boyfriend John, an Umbrella researcher. However, she's not who she claims to be, and the only thing we know for sure is that she's a spy who is attempting to obtain a sample of the G-Virus. She mostly assists Leon throughout his story.

CLAIRE REDFIELD

■ The other main playable protagonist, Claire is a student and motorbike enthusiast who comes to Raccoon City in search of her brother Chris after losing contact with him following the events of the first game. Her survival skills, including armed and unarmed combat training, were passed on to her by her older sibling.



SHERRY BIRKIN

■ Sherry is the somewhat neglected daughter of Umbrella researchers William and Annette Birkin, and Claire's companion. Being a child, she's survived thus far by crawling into small areas. Over the course of the game, she receives the parental attention she craved – in the worst way imaginable.

TEST SUBJECT 1

We exhume the rejected version of Resident Evil 2

It's not often that a game receives such a complete retooling as *Resident Evil 2* did during its development – almost every single in-game asset was recreated from scratch once Capcom decided to restart the project. Despite this, the rejected prototype shares many similarities with the game that eventually came out. The plan was always to offer two playable characters, as in the original game – Leon S Kennedy or Elza Walker – and the plot of the game follows a broadly similar outline. Starting from the Raccoon City Police Department, players were to make their way to a factory via the sewers before finishing up in Umbrella's secret underground laboratory.

Leon was still a rookie cop whose first day on the job went horribly wrong, and he'd still meet Ada, who was working as a scientist in this version. The main point of divergence for Leon was his secondary companion, fellow cop Marvin Branagh, who would accompany Leon and Ada through the game. In the final version, he plays a much reduced role as he is already fatally infected by the time you meet him. Elza was a motorbike enthusiast who was travelling to Raccoon City to start university when the outbreak occurred. Along the way she'd meet Sherry Birkin, who made it to the final game in redesigned form. Elza's secondary companion was a man named John, who has no equivalent in the final game, although his model was ultimately used as the ill-fated gun shop owner Robert Kendo.

Alongside your standard Zombies, enemies included infected gorillas, a freaky human-spider hybrid and of course William Birkin – who is still an oversized brute but lacks the trademark giant eyeball of the final game's design, and has a nasty tendency to smash Leon and Elza into the walls with a big metal bar. Thankfully, new weapons were available to deal with these threats. You could upgrade your last-ditch melee weapon to a metal pipe, offering additional range and damage compared with the standard knife, with other options including hand grenades and a variety of guns.

Shinji Mikami had felt that this version of the game had good individual assets but wasn't feeling right, and would all come together in the last few months of development. However, it became clear that this wasn't going to happen – with the locations in particular criticised as "dull and boring". While we wouldn't go quite that far, it's clear from the incomplete version we've got that the rejected *Resident Evil 2* wouldn't have been as exciting as the game we ultimately received. The modern police station design doesn't have the character of either the first game's mansion or the final police station and there are far too many bland corridors to run through. The new monsters don't inspire the same sort of fear as the Licker, and even William Birkin was much improved in the finished game. The scrapped version is a fascinating piece of history, though, and many of its ideas ultimately did find a place in the series.

» The prototype version of *Resident Evil 2* may look familiar, but it features a lot of cut content such as this spider-like mutant enemy.

▶ were prerendered to provide the maximum possible visual quality, but this time the scene complexity was far greater – evident from the very first scenes, where the streets are strewn with crashed cars and broken glass, alleyways are piled with rubbish and covered in graffiti, and remnants of military blockade operations are visible. Throughout the game there's more detail in every scene, compared to the wallpaper and indoor decorations of the original mansion. The game also incorporated CGI sequences for FMV throughout the game, ditching the live action elements of the original.

But it wasn't just the prerendered visuals that got a major upgrade. Character models received an increased polygon count, and the new enemy designs are amongst the most iconic to be seen in the series. One of the most terrifying is the Licker – a blind, skittering nightmare with an exposed brain and visible musculature, with a signature long tongue that is used to attack players. What is it that makes them so memorable? "Zombies are, visually speaking, an extension of normal humans, but the Lickers takes the internals of the human body, which we all know we have inside us but rarely, if ever, see for ourselves; and [it] lays them bare in a way that's a great, shocking contrast with the more human-looking zombies," says Hirabayashi. "Its ability to climb over walls and ceilings fluidly also contrasts well with the zombies." Indeed, the creature's intro is one of the most memorable moments of the game – as you wander through a corridor in the police station, you can see something darting in the distance. You round a corner and see blood dripping from the ceiling, before a cutscene plays and shows you the Licker in full, gruesome detail.

» Just as before, it's not just zombies that need fighting – this weird plant creature is a pain, too.

***Resident Evil 2* provided plenty more memorable encounters, from the sewer fight with a gigantic alligator to the secret encounter with the zombified STARS helicopter pilot Brad Vickers.** But two more in particular stand out as highlights. The original *Resident Evil* concluded with a fight against the incredibly resilient Tyrant, and the enormous humanoid creature returns in the sequel – this time pursuing the player as they make their way through the game's B scenario, often appearing by surprise. This was so good that *Resident Evil 3* was built wholly around the concept of being hunted by a single relentless pursuer. Then there's William Birkin, whose mutations become progressively more severe throughout the game due to the influence of the G-Virus. At first, his main distinguishing features are his oversized right arm and a gigantic eyeball that has developed within it, but he soon starts to lose the vestiges of his humanity – his face and hair slip from his skull, he grows additional arms and eventually develops a bestial appearance, before ending up as little more than a shapeless mass

» Concept artwork for the ominous main hall of the Racoon Police Department.

"YOU ALWAYS HAVE TO BALANCE THIS VISUAL REALISM WITH THE AMOUNT OF STRESS IT WILL CAUSE A PLAYER"

Yoshiaki Hirabayashi

of flesh and teeth. It's the first time we see a single character undergo such changes from start to finish, and it makes a big impression.

Graphical additions were also used in conjunction with game mechanics to improve the overall feel of the game. One of the clear goals throughout development was to more visually represent the damage characters took throughout the game, and the method finally employed was to alter movement. At first, players can run around as normal, but after a few bites they'll clutch at injuries and even start to limp if they're severely wounded. Of course, a limping character is less effective at zombie-dodging than a healthy one, increasing the likelihood of further damage and adding to the tension of the game. "All of the *Resident Evil* games [since *RE2*] have used character animation to indicate threat to the player, as it's an effective way of increasing the immersion, but you always have to balance this visual realism with the amount of stress it will cause a player," says Hirabayashi. "In a horror game, some stress is necessary, so it's a matter of how you balance the two."

One of *Resident Evil 2*'s other strengths was that it offered a strong cast of survivors, which is always a necessity in a good horror story. These weren't just characters that you wanted to protect to avoid having to restart the game – they had individual plights that you could relate to, and connections to the characters you already cared for in the original game. ▶

NEW FACES OF FEAR

Here's a selection of the biohazard bosses in Resident Evil 2

◂ G-TYPE

■ Not everyone is susceptible to the G-Virus – if the host of the implanted embryo doesn't have the right DNA, the resulting spawn will burst forth from its body in a most violent fashion. Once it has grown to maturity, it becomes quite powerful and can spawn more of its young in an attempt to further spread the infection, but lacks the intelligence of an infected host such as William Birkin.

GIANT ALLIGATOR ▸

■ This beast dwells in the sewers, where it was exposed to the T-Virus and grew to an enormous size. How did it get there in the first place? We'd prefer not to think about it. You can choose to unload ammunition into it until it flees, but the better option would be to steal a page from the Jaws playbook and lodge a gas canister into its mouth before blowing it up.

◂ GIANT MOTH

■ Since neither Leon nor Claire is carrying a particularly large jumper to feed to this oversized lepidopteran, you'll have to deal with it by firing lots and lots of bullets at it. But it's not the only thing you have to deal with, as its larvae are also present when you encounter the moth in the computer room.

TYRANT ▸

■ While it's not the most vicious enemy on the block anymore, the Tyrant still poses a considerable threat to you whenever it strikes – and you'll have to be prepared for it to strike, because it does so frequently and without warning. After a while it sheds its overcoat and unleashes its full power, making it even more dangerous.

◂ WILLIAM BIRKIN

■ The game's big baddie, and the main carrier of the G-Virus. A bioweapon research scientist betrayed by Umbrella, he takes vengeance in spectacular fashion by infecting himself. Now seeking to spread the virus, he hunts down his daughter due to her compatibility as a host. You'll meet him throughout the game in a variety of different forms.

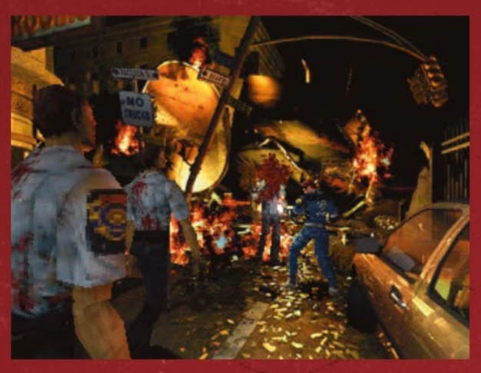
CONVERSION CAPERS

The infection quickly spread beyond the PlayStation – here's what it did to different hosts

PLAYSTATION (DUALSHOCK VERSION) ▸

1998

■ As well as adding support for the DualShock controller, this revised edition of *Resident Evil 2* added the Extreme Battle minigame, as well as a 'Rookie' difficulty mode which made the main game significantly easier. The Japanese version also gained a 'USA Mode' which increased the difficulty.



◂ GAME.COM

1998

■ This wholly unique 2D monochrome version is a valiant attempt to convey the spirit of *Resident Evil 2* onto hardware that is wholly unsuited to doing so. You can only play as rookie cop Leon in this handheld version, and the action is stripped back to item management and zombie shooting, but the pixel art is actually quite nice to look at.

PC ▸

1999

■ Based on the DualShock version of the PlayStation game, this version of *Resident Evil 2* features various graphical settings including optional shading and high-resolution modes. Unfortunately, there are no high-resolution backgrounds. An extra Data File option is provided, however, featuring a selection of concept artwork and movies.

◂ N64

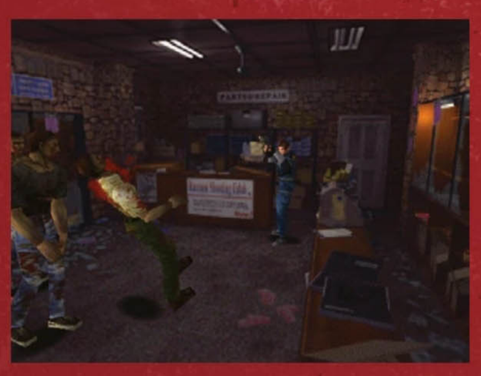
1999

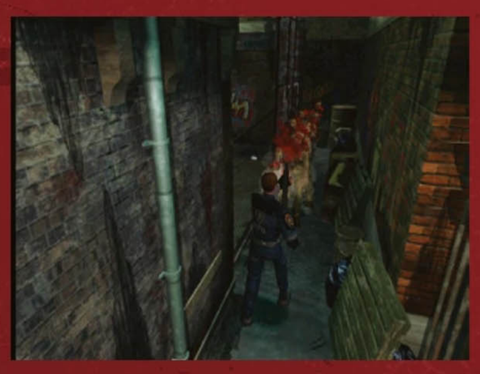
■ Angel Studios handled this conversion and did a pretty stellar job. The entire two-disc PlayStation game is jammed onto a single cartridge through strategic quality reductions on FMV, speech and background images. The game includes an optional revamped control scheme, a randomiser mode and extra costumes, plus bonus files expanding the story content.

DREAMCAST ▸

1999

■ The version for Sega's console is based on the PC version, even running via Windows CE, and runs in high resolution with the low-resolution backgrounds. The Data File is retained, and FMV quality is very high. Your character's health and ammunition status are displayed on the VMU, saving you the occasional look at the menu.





◂ GAMECUBE

2003

■ This odd conversion feels slightly out of time, released after the *Resident Evil* remake and *Resident Evil 0* in order to make the whole *Resident Evil* story available to GameCube owners. It's a straight port of the DualShock version, with high resolution 3D models and the same low-res backgrounds.

"THE SERIES HAS COME THIS FAR BY USING STORYTELLING WHICH MAKES PEOPLE WANT TO KEEP GOING"

Yoshiaki Hirabayashi

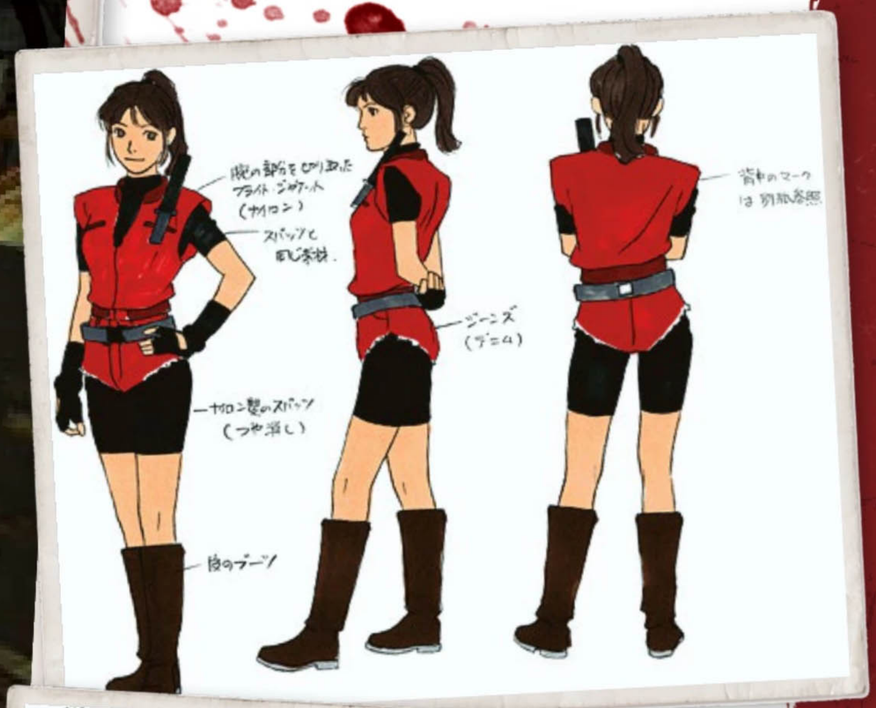
▶ "Since the first game in the series, the appealing characters and the storylines they are involved in have been one of the most popular elements of the franchise," says Hirabayashi. "I think that by having a cast of characters related by blood or organisation, we've been able to increase both the consistency of the series storylines and the connection players feel to the characters."

Like its predecessor, *Resident Evil 2* offered the choice of a male or female protagonist – but unlike the characters of the prior game, these weren't special operatives with heaps of combat training, making them somewhat easier to relate to. Though he was a trained police officer with his own weapon, Leon Kennedy was a rookie, arriving for his first day on the job to find a situation beyond all expectations. "Leon is an appealing character in terms of his personality and looks, and also I think he's been in games which may have been many people's first *Resident Evil* games. So they may feel a special connection to him in that sense," says Hirabayashi. Indeed, even when the development of the game was restarted, Leon's character design and backstory were changed very little. It seems like Capcom's staff knew they were onto a winner with him, so it's no surprise that he has returned in games such as *RE4* and *RE6*.

The game also expanded the use of partner characters over the original, as each could be controlled during key points in the story. Leon's partner was Ada

» The spark shot is a valuable weapon against the game's toughest enemies, but its ammo is strictly limited.

» Much like the original *Resident Evil*, it is wise to save ammo for situations like this.

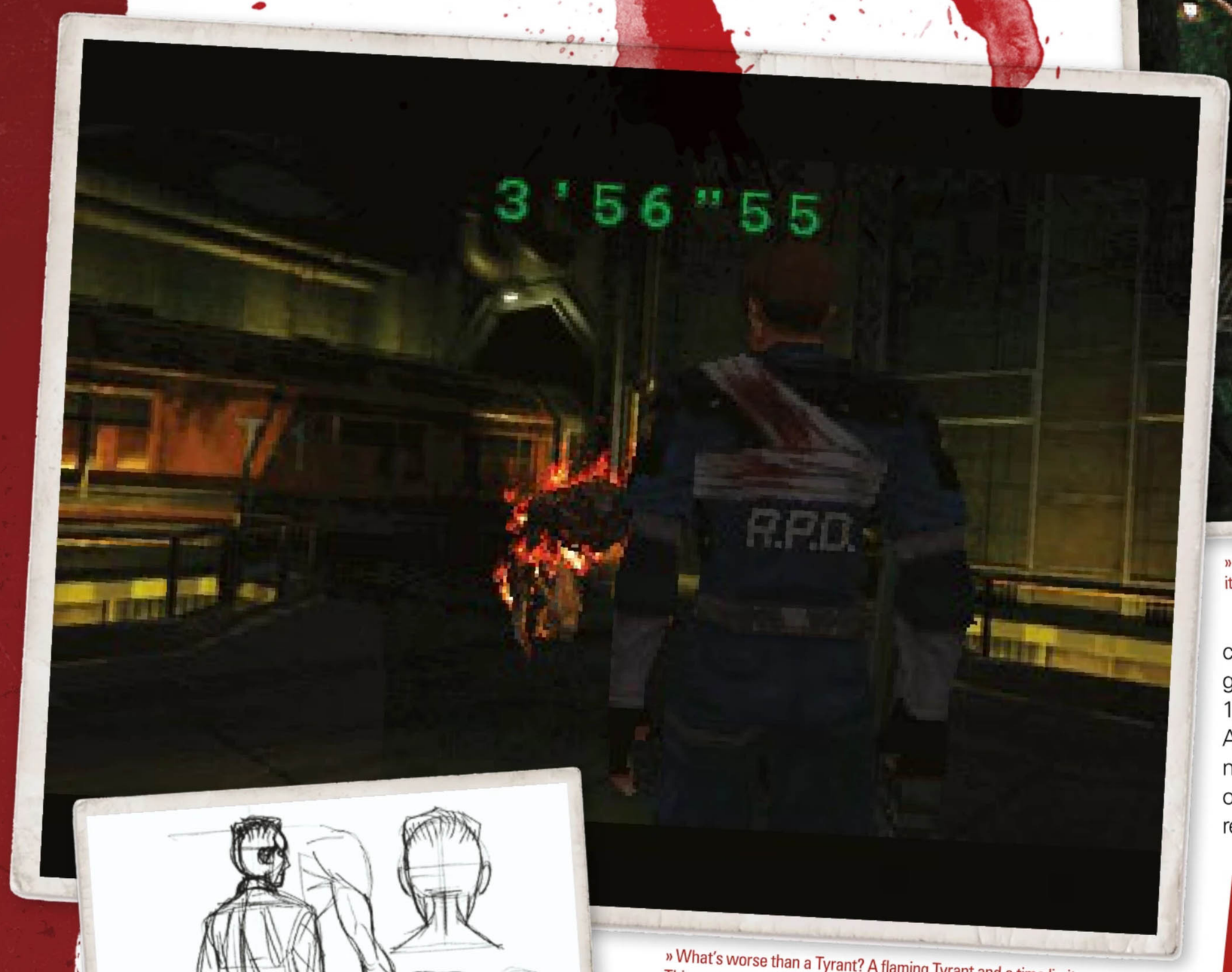


Wong, a mysterious woman whose motives are never entirely clear, and who serves as a friend, foe and love interest. Her appearance within the game raised more questions than it answered – but as Hirabayashi points out, such characters serve a key purpose in a series like *Resident Evil*. "It's satisfying to have a story where everything is explained, but you can also leave open some possibilities for the future by having a story which is generally resolved but leaves some mysteries. The series has come this far by using storytelling which makes people want to keep going and find out what happens next," the developer explains.

The other main character was Claire Redfield, whose character was evolved from the original Elza Walker concept. She retains most of the backstory and personality traits of the original design, including her love of motorbikes and status as a student, but was rewritten as being the younger sister of Chris Redfield in order to better tie the game into the overall *Resident Evil* story. She's the first civilian protagonist in the series, but remains a tough and capable fighter. She finds herself protecting Sherry Birkin, the daughter of the game's hideously mutated antagonist. "Family is one of the most important themes in the story, so having a child character really adds to the ability to tell a story like that," notes Hirabayashi. Indeed, one of the primary fears of zombie horror is seeing your loved ones not only killed, but turned against you – and the fact that William Birkin retains just enough of himself to doggedly pursue his daughter makes him that much scarier. Uniquely, Sherry is unarmed but is small and quick enough to dart around most of the enemies she'll encounter.

» The police station's history as a museum better frames its eccentric art-based puzzles.

One of the biggest game design innovations in *Resident Evil 2* was a 'story zapping' system. "*Resident Evil* let you choose from two characters to play as, giving you multiple perspectives on the story. I imagine the team wanted to go even further than *Resident Evil* did in mixing the story and gameplay system together to create the zapping system," says Hirabayashi. Each character could play through A and B scenarios, examining what would have happened if the car crash at the beginning of the game had turned out differently, stranding the characters on the other side of the truck. But it's more than just a storytelling trick – the actions you take in the A scenario affect subsequent sessions in the other character's B scenario. For example, the A scenario character can make things harder for the B scenario character by taking key items like the submachine gun, or make things easier by destroying certain unique enemies that won't appear later. This is certainly innovative, though as Hirabayashi notes, "It's definitely a tough challenge to design a game around such a feature." The increased scope of the game meant that two discs were needed to deliver the full game, even with space-saving measures such as the use of chip-generated music rather than a CD ▶



» What's worse than a Tyrant? A flaming Tyrant and a time limit. This game doesn't skimp on drama.

» Claire desperately tries to fend off an adult G embryo, as well as its offspring.

▶ soundtrack (not that you'd notice the difference if you weren't told – the quality is superb).

When *Resident Evil 2* was released in 1998, it drew widespread critical acclaim. The game was awarded 96% by *Play*'s Alan Rausch, who praised the game for its "varied and exciting" locations as well as its setpieces. He also compared its relationship to the original with that of the movie *Aliens* – "the adventure has progressed from tense, gritty origins to all-out action." In *CVG*'s 5/5 review, Steve Key noted that "Our forum page on Game Online has differing views on *RE2*, many complaining that it's too short," but disagreed with that assessment, noting the replay value offered by the two characters and their A and B scenarios. *Edge*'s review scored the game 9/10, with particular praise given to its advances in plot delivery – the magazine felt that it was "a videogame more akin to a movie than almost anything else that's been attempted", and that "the sequel has a script that – while not exactly Shakespeare – isn't far short of something like the *X-Files*." The *Official UK PlayStation Magazine* also scored the game 9/10.

Resident Evil 2 was Capcom's best-selling game in over five years. The PlayStation version sold 4.96 million copies, which put it behind only the SNES version of *Street Fighter II* in Capcom's all-time list, and just beats out the combined sales of the three PlayStation versions of the original game. The game was re-released later in 1998 with DualShock compatibility. The first conversion of *Resident Evil 2* announced was for the Saturn, but it was cancelled in mid-1998 due to apparent concerns over quality – though the system's rapidly declining fortunes would certainly have played a part in that decision too. The game eventually came to PC, N64 and Dreamcast in 1999, achieving critical acclaim across all three formats. A GameCube release in 2003 was less well-received, mostly due to the fact that it was a straight conversion of a five-year-old game, arriving after the wonderful remake of the original.

All these years later, *Resident Evil 2* stands the test of time. Readers of **Retro Gamer** voted it the greatest PlayStation game in issue 127's top 25 list, and they also placed it highly in issue 150's countdown of the top 150 games of all time. The game has an enormous legacy, too. "It has been an inspiration for the entire series ever since it came out, and of course, for the reimagined *Resident Evil 2*, it's the main source of all our inspiration! What we are trying to do is design a modern game system which matches up perfectly with the key pieces of the original game which we want to try to keep intact as much as possible," says Hirabayashi.

Indeed, the success of the game did much to determine the future direction of the series – particularly its setting, as proven by how often the destruction of Raccoon City has been expanded upon and revisited. *Resident Evil 3: Nemesis* follows the story of the original game's Jill Valentine as she attempts to escape the city, pursued by the almost unstoppable Nemesis creature. The two *Resident Evil Outbreak* games for PS2 also explored different

» As in the original, puzzles often involve taking complex steps to acquire key items.

> "IT HAS BEEN AN INSPIRATION FOR THE ENTIRE SERIES EVER SINCE IT CAME OUT"
>
> Yoshiaki Hirabayashi

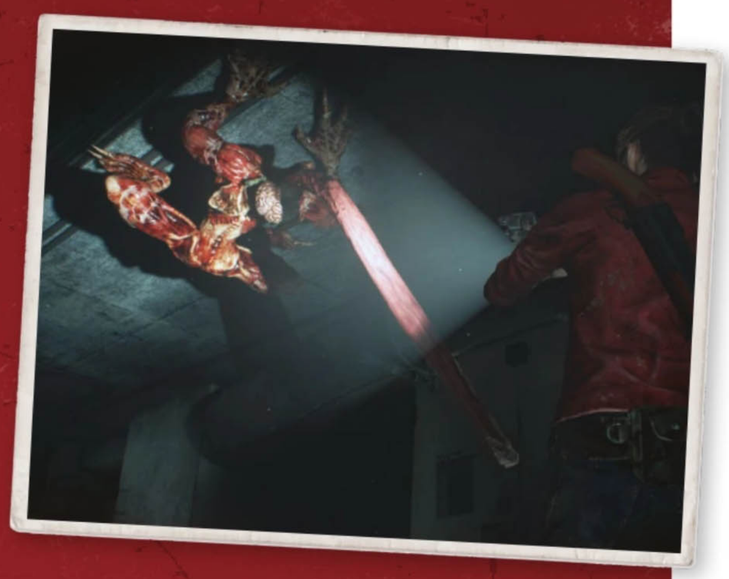
aspects of the town's destruction with a cast of civilian characters. The on-rails shooting spin-off *Resident Evil: The Umbrella Chronicles* retells the events of *Resident Evil 3*, with Ada Wong and HUNK's background roles explored in sub-chapters, and its sequel *Resident Evil: The Darkside Chronicles* retells the events of *Resident Evil 2* directly. Finally, the spin-off *Resident Evil: Operation Raccoon City* is a third-person shooter, offering an alternative retelling of the events surrounding the city's destruction. Even though the series has moved away from Raccoon City, the plot still frequently features the *Resident Evil 2* cast, with Leon and Claire taking starring roles in later games.

But just what is it that allowed this game to make such an enduring impression on players? It's hard to single out any one thing. As a sequel, it was a dramatic upgrade over the original – but that doesn't account for the game's impact on newcomers. To focus on the compelling story presentation is to ignore the way the game design amplified the feeling of dread, and vice versa. So we'll leave the final word to Hirabayashi. "*Resident Evil 2* was able to keep the survival horror atmosphere of the first game while substantially scaling up the dramatic and entertaining story and gameplay for an all-round incredible experience," he concludes. "Different players enjoy the series in their own different ways, but *Resident Evil 2* was a game which had pretty much all the different aspects of *Resident Evil* that fans love." ✱

» Ada Wong becomes playable during parts of the game, and can hold her own against the biohazards.

MUTATING A MASTERPIECE

Yoshiaki Hirabayashi speaks to us about remaking one of Resident Evil's most celebrated games



Thanks to the 2002 GameCube reimagining of the original, *Resident Evil* is already home to one of the great videogame remakes – so it's no surprise to learn why the sequel has now been remade. "We had requests from the fans for many years to create a remake of *Resident Evil 2*," says Hirabayashi. "We wanted to not only respond to our passionate fanbase but also deliver a whole new zombie horror gaming experience that utilised the Capcom in-house proprietary engine, RE Engine, to bring it to life on current gaming consoles and also attract a whole new audience that may not have been around for the original release in 1998."

Much like the remake of the first *Resident Evil*, which added new elements, the new *Resident Evil 2* makes some changes to the 1998 original. "We have been balancing respect for the original designs with reimagining and restructuring them for a game coming out in 2019. This includes combat, the route through the game, as well as the designs of characters, locations and enemies," Hirabayashi tells us. "We know that since the original game came out 20 years ago, players have become accustomed to differences in the gaming environment, and want to bring them the ultimate survival horror experience." If you've followed the progress of the game so far, you'll know that characters such as Claire, Ada and the Tyrant have been redesigned – and it's not just characters that have received a refresh. "We don't want to give too much away and spoil the final game experience for fans but there are new areas in the remake that fans won't have seen before! The layout of the RPD has changed as well so things won't necessarily be where players remember them being."

Where the GameCube remake of *Resident Evil* updated the visuals and content but retained the fixed camera presentation and tank controls, *Resident Evil 2*'s remake is presented in full 3D. "We tried out a fixed camera like the original game at the start of development," explains Hirabayashi. "It was certainly unique, but we felt it would make the game difficult to control for a lot of people, especially those more accustomed to modern game experiences," he admits. Without care, such a change could dampen the atmosphere of the game, as key moments such as the first Licker encounter rely on the camera perspective to create tension. However, creative thinking appears to have mitigated these problems. "We decided to use a *RE4*-style over-the-shoulder camera, and we felt we could reproduce the kind of effect the original *RE2* got from its fixed angles – fear of off-screen enemies – using level design, lighting effects and sound design," he continues. "This let us deliver the key point for us – the fear of being bitten by the zombies – in a very effective way."

It certainly seems remarkably effective – we're happy with zombies staying as far away from us as possible, and the gruesome visuals are a little too believable for comfort. But this technological advancement allows the gore to be more than just window dressing, as we've seen a zombie trying to crawl around after a well-placed shot severs its leg at the knee. Another gets shot in the arm, only for the rotten limb to limply hang by a thread. What else does modern technology bring to the table? "There are so many things, but one example is the movements of the Licker are much more three-dimensional now," responds Hirabayashi. "In the original game we could show it moving across the ceiling in the cutscenes, but it wasn't possible to achieve this during gameplay. It's extremely scary and fun how it's able to attack players from all sorts of places now!"

Resident Evil 2 is available to buy now and we can safely say it's a truly excellent update that effortlessly captures the spirit of the original PlayStation classic. Here's hoping Capcom use the same engine and revisits *Resident Evil 4* next.

» The photorealism of Capcom's RE Engine has recaptured that fear we felt back in 1998.

THE STORY OF

Shenmue

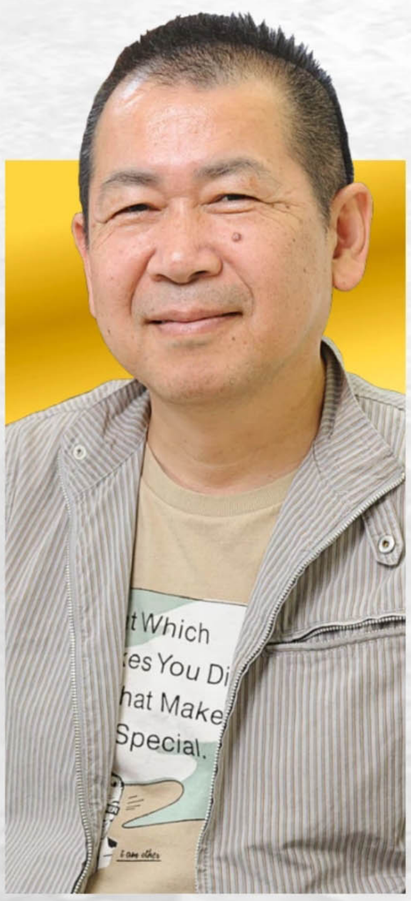
WHEN ONE OF GAMING'S MOST CELEBRATED DESIGNERS DECIDED TO CREATE A CUTTING-EDGE CONSOLE RPG, THE RESULT WAS ONE OF THE MOST AMBITIOUS PROJECTS OF ALL TIME. YU SUZUKI TELLS US HOW THE ORIGINAL CLASSICS WERE MADE – AND HOW HE'S REVIVING THE SERIES TODAY

Words by Nick Thorpe

Considering its short life, the Dreamcast is a machine with no shortage of excellent games, but none of them have quite the same association with the console as the *Shenmue* games. Part of that is practical – for almost 20 years, the Dreamcast was the only machine on which you could experience the original game, and therefore the complete tale. But the association goes deeper than that, as the game is reflective of the console that hosted it. Both *Shenmue* and the Dreamcast were incredibly ambitious projects that were ahead of their time in many respects, and both left players with the feeling that business was definitely unfinished, thanks to the premature discontinuation of the Dreamcast and the unresolved cliffhanger ending of *Shenmue II*. But where Sega's return to the hardware market feels as distant a prospect as ever, *Shenmue* is on the brink of a remarkable revival thanks to the undying support of its fans.

The *Shenmue* games are 3D action adventures, which are based on an original story concept by Yu Suzuki – the founder of Ys Net, and best known for his time at Sega, where he was a programmer, director and producer on hit arcade games such as *Space Harrier*, *Out Run* and *Virtua Fighter*. When asked what the very earliest influences on the creation of *Shenmue* were, Suzuki replies "They would be the games of Apple II such as *Wizardry* and *Mystery House*, as well as *Virtua Fighter*." Suzuki had enjoyed the Apple games while studying, and wished to create a game in that spirit. However, the *Virtua Fighter* connection goes beyond that simple inspiration. The first two *Virtua Fighter* games were smash hits in Japan, and many projects were in the works to capitalise on this success – spin-off games, merchandise and even an animated TV series. However, the big *Virtua Fighter* side project was Suzuki's own desire to create a *Virtua Fighter* RPG, which would follow the story of Akira Yuki.

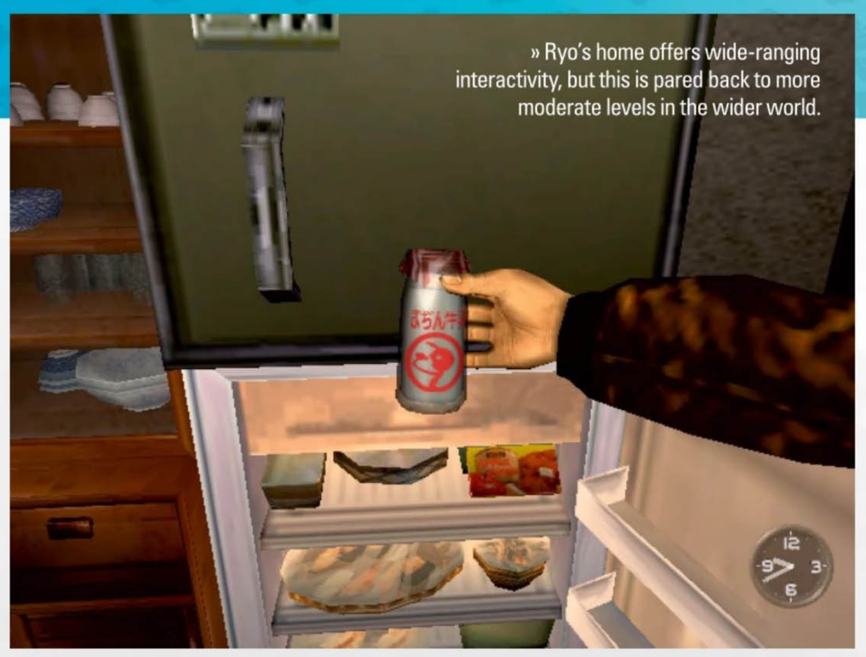
Of course, RPGs aren't a tremendously arcade-friendly genre so AM2 would have to work with home console hardware, rather than the cutting-edge arcade hardware it was accustomed to. At the time, that meant working with the Saturn. Very little information about the Saturn version of the game has been made available to the public, with the most revealing being some video footage included as a bonus feature in *Shenmue II*. Much of the available footage is comprised of cinematic scenes (displayed in-engine, as in the Dreamcast game) with a little environmental exploration thrown in too. Though some details are naturally different, plenty of recognisable characters and scenes are shown, from the initial confrontation with Lan Di in the Hazuki family dojo to Ryo's first encounter with Guizhang, and the discovery of the hidden basement. Some designs look rather close to the final vision, and it's amazing how many scenes were developed.



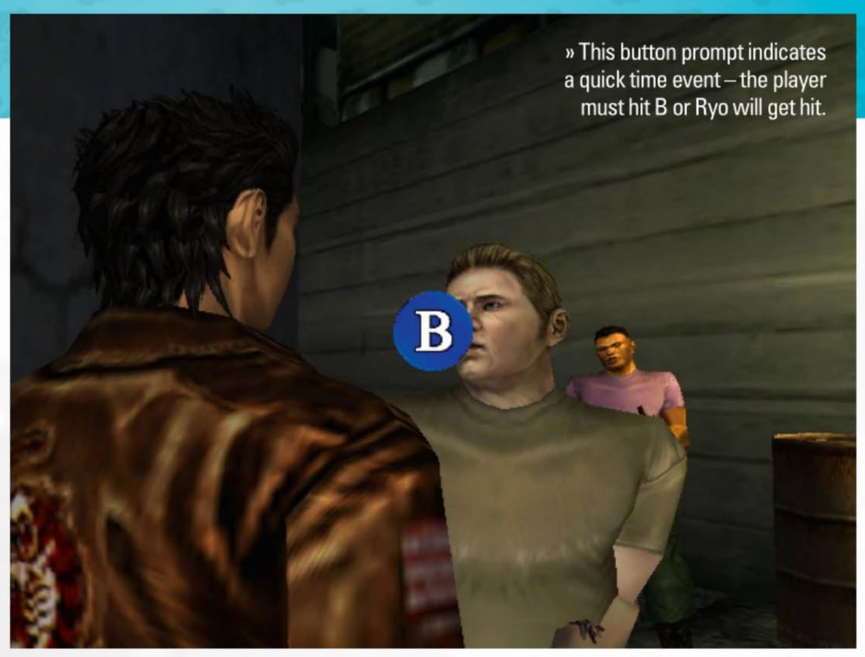
» Yu Suzuki is the creator of *Shenmue*, alongside other classics such as *Out Run*, *Space Harrier* and *Virtua Fighter*.

While much about the game is a mystery, one thing is obvious – *Shenmue* would have been a graphical masterpiece by the standards of the Saturn. Character models and environments showed a level of detail that puts most of the system's 3D games to shame, and there's a cinematic flair to the story scenes that few developers of the time possessed. We've often wondered how such visuals were possible on a console which is notoriously difficult to work with, especially when it came to displaying 3D graphics. "I would think one main factor was that I personally did the direction and coding by myself," says Suzuki. "At the time, very few tech people understood the true meaning of 3D."

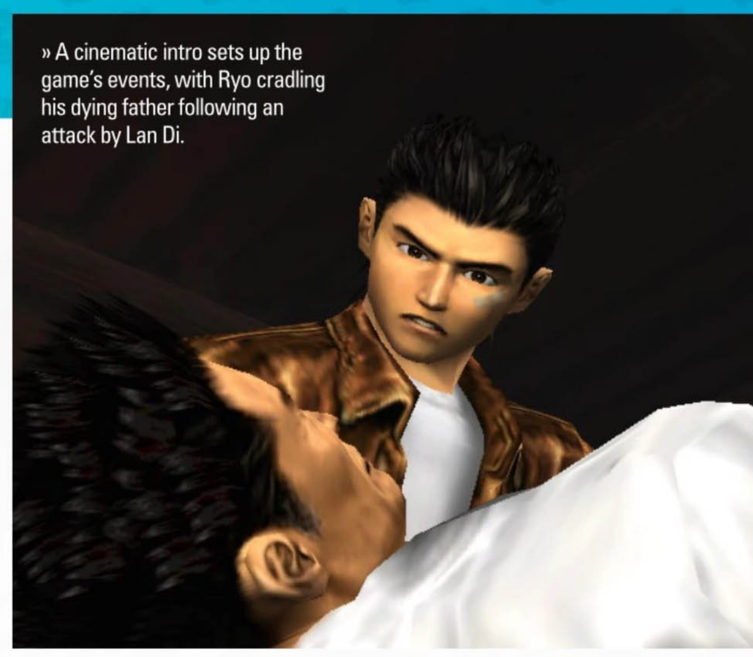
Ultimately, the Saturn version of *Shenmue* was never completed, as Sega was already planning a new console. In 1997, Suzuki decided to move the game to that system. "We started to see various possibilities in the Dreamcast while the development moved forward. We decided to move to the Dreamcast because we were confident the potential of *Shenmue* would increase tremendously with it." While it's not uncommon for games to switch generations during development, *Shenmue* looked to be in a fairly advanced state as the footage also shows off plenty of material



» Ryo's home offers wide-ranging interactivity, but this is pared back to more moderate levels in the wider world.



» This button prompt indicates a quick time event – the player must hit B or Ryo will get hit.



» A cinematic intro sets up the game's events, with Ryo cradling his dying father following an attack by Lan Di.

» The unreleased Saturn version of *Shenmue* looks like it would have been graphically astonishing for the time.

» The Xbox version of *Shenmue II* featured graphical changes such as bloom lighting at night, to mixed response.

that we would only see in *Shenmue II* – Hong Kong environments, the introduction of Ren's gang, and Ryo's first journey with Shenhua. With that in mind, we had to ask how close to completion the Saturn game was. "It's hard to say how many per cent complete it was, because when we changed from Saturn to Dreamcast, we also changed what we wanted to do. It was maybe 30 to 50 per cent complete."

Upon moving to the Dreamcast, *Shenmue* became known to the public as 'Project Berkley' before assuming its final name. The game also lost its *Virtua Fighter* connections, with Akira Yuki being replaced by the young man Ryo Hazuki, who sets out on a quest for vengeance after seeing his father murdered in front of him in late 1986. The game was announced not as an RPG, but as a new type of game called FREE ('Full Reactive Eyes Entertainment'), which was an acronym that unsurprisingly didn't catch on. Explaining this decision on the Project Berkley preview disc included with *Virtua Fighter 3tb*, Suzuki said that since his concept of what an RPG should be was quite different from that of other developers, it could be called a Suzuki-style RPG, but it was probably better not to call it an RPG at all. His stated goal was to create a game with more freedom and fewer restrictions than any game before it. The idea was that when the player explored the game, they should be able to talk to anyone they saw, and enter any building (or at least knock on the door). If you saw a vending machine selling drinks or capsule toys, you should be able to use it.

> "WHEN I DECIDED TO MAKE AN RPG, I DECIDED 'WHY NOT CREATE A GAME WITH MULTI-CONCEPT CONTENT?"
> YU SUZUKI

***Shenmue* would be a broad adventure taking in a variety of concepts – a stark contrast to much of Suzuki's previous work, which had been focused on simulating single concepts such as motorbike racing or martial arts fights.** "When I decided to make an RPG, I decided, 'Why not create a game with multi-concept content?'" Suzuki recalls. "I wanted to make a game with a mix of what I could do. For example, because I loved fighting games, I wanted to have some fight scenes. I also love driving, so I wanted some driving scenes, and I also love cinematics." In this way, the concepts that Suzuki had been involved with over the course of his career would be brought together into one grand project. There was even an attempt to work gameplay into the cinematic scenes, with the 'quick time event' system – essentially simple button prompts that would allow players to perform complex cinematic actions, rather like in *Dragon's Lair*. "Because *Shenmue* is a thought-driven game, we judged that requiring time-sensitive game skill would not match the game, and we invented a game system called QTE which could be enjoyed by game players with low time sensitive game skill."

But as well as drawing on his previous work in the arcades, Suzuki wished to surpass it. "Before *Shenmue*, I developed *Virtua Racing* and *Virtua Fighter*, which were 3D games. When I started the development of *Shenmue*, I wanted a new dimension. I wanted to create a 4D game," he explains. "For me, the new dimension was time. When time disappears, 3D objects also disappear. For example, when time flies, the weather changes. And when you see reality, people don't stay in the same place all day long – they also have lives, they go to work and so on. So the 3D world evolves because of time, so I wanted to include this kind of notion."

DIGITAL DISTRACTIONS

WHEN THE GOING GETS SLOW AND RYO HAS TO KILL SOME TIME, THERE ARE PLENTY OF WAYS TO DO IT

CAT

Early on in *Shenmue*, you meet a kitten whose mother was run down by Lan Di's car. You can choose to raise it if you like, with cat food available in the convenience store.

DARTS

You know the drill – chuck the pointy things at the board to score points. This minigame is quite tough, as Ryo's hand movements can be pretty erratic.

BILLIARDS

Once you've played a game of pool for information in the MJQ Jazz Bar, you can play a quick game with some of the American sailors whenever you return.

ARCADE GAMES

As well as fictional cabinets like 'Excite QTE 2', *Shenmue*'s arcades offer real AM2 games like *Hang-On*, *Space Harrier*, along with *Out Run* and *After Burner* in *Shenmue II*.

» Much of the game involves investigating leads by talking to the various people Ryo meets.

Time was therefore an important factor in *Shenmue*. Where traditional RPGs featured 24/7 shops and ever-present townsfolk that always stood in the same spot, *Shenmue*'s world would change. The sun would set as night drew in, and seasonal decorations would go up as you approached Christmas. If you wanted to buy something from a shop, you'd have to turn up during opening hours – and if you watched the staff of those shops all day, you'd see them leave their homes, walk to work, open up and put their shifts in, and eventually walk home. As well as creating a great sense of immersion, this validated the various distractions the game world had to offer – just like in real life, you can't make time go any faster so you have to fill it. As well as the aforementioned vending machines, you were able to practice your fighting moves, play games of darts and pool, and even enjoy full arcade versions of *Space Harrier* and *Hang-On*.

Suzuki's interest in the console market allowed him input over the design of the hardware he was targeting. "I was in charge, along with other people, of developing the Dreamcast hardware. 3D games were very well done in the arcade market, the motherboards were ready. I wanted to put the really advanced arcade systems to the consumer market." Indeed, the Dreamcast ended up succeeding the Saturn, but also succeeded the existing Model 3 board in its arcade NAOMI form. This close involvement ultimately helped the game's development process. "I knew the hardware of the Dreamcast very well, and I also knew very well what I could or could not do. But of course, I had in my mind a very deep game idea. So what I couldn't do in hardware, I tried to do using software techniques like automatic generators. With programming skills, you can avoid some difficulties. Because of our progress with generators, we were able to put *Shenmue* on only three discs, instead of maybe 50 discs – if we had made *Shenmue* the old way, it would have taken 50 discs."

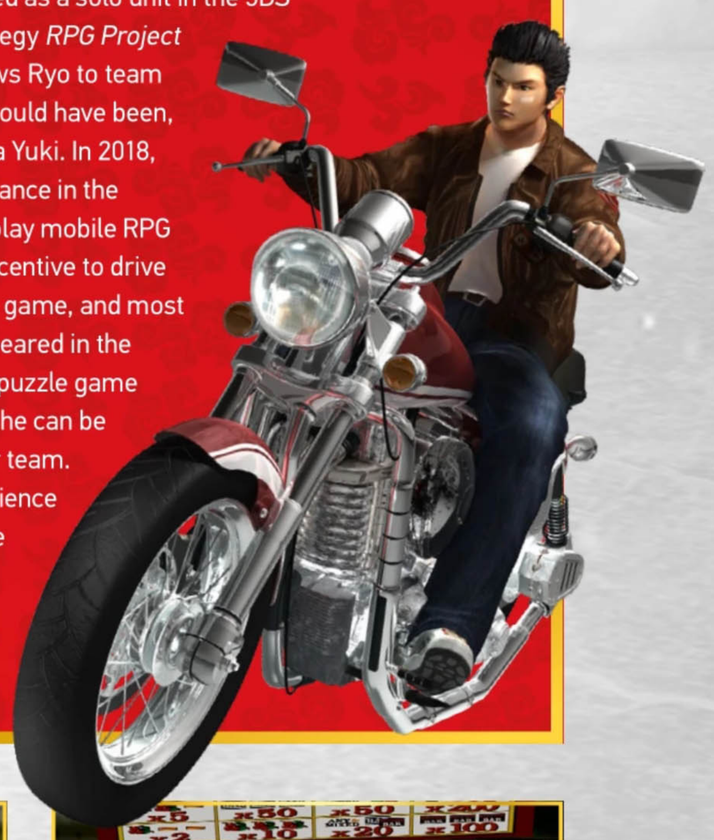
Shenmue just managed to squeeze itself into the Nineties, releasing on 29 December 1999 in Japan, with releases in North America and Europe following in October and November 2000. A special edition titled *US Shenmue* was later released in Japan in July 2001, which essentially added Japanese subtitles and notebook text to the English localised version. Some publications felt that the hype had not been warranted. *Game Informer* decided it was only worth 6/10, and *Video Gamer* gave it 7/10, with reviewer Nick Jones claiming it was "painfully slow at times" and had "very little substance",

CAM-RYO

ALTHOUGH RYO TOOK A LENGTHY HIATUS AFTER SHENMUE II, HE DIDN'T DISAPPEAR FROM GAMING ENTIRELY

It can be hard for a fan to keep the faith when a favourite series becomes dormant, but cameos will give them at least a little something to cling to – and Ryo Hazuki has fit in a few over the years. The earliest actually came pretty soon after the release of *Shenmue II*, as he was featured as a free agent in *ESPN NFL Football 2K4*, alongside other Sega characters. He later made an appearance in *Sonic & Sega All-Stars Racing*, riding the motorbike he borrows during the later scenes of the original game. He didn't make the main roster of the sequel *Sonic & All-Stars Racing Transformed*, but managed to make it in as DLC in the PC version. In this game, he drives an *Out Run* cabinet converted into a car, flies an *After Burner* cabinet and uses a floating *Hang-On* cabinet as a boat.

Since then, Ryo has appeared exclusively in pocket-sized form. He was included as a solo unit in the 3DS multi-franchise strategy *RPG Project X Zone 2*, which allows Ryo to team up with the man he could have been, *Virtua Fighter*'s Akira Yuki. In 2018, Ryo made an appearance in the Japan-only free-to-play mobile RPG *Kotodaman*, as an incentive to drive early sign-ups to the game, and most recently Ryo has appeared in the mobile match-three puzzle game *Sega Heroes*, where he can be recruited to join your team. You'll need some patience though, as he's at the Epic rarity level and takes considerable time and/or money to unlock.



DRINKING

Just soft drinks, of course! But if you get a winning can, you can exchange it for a prize at the convenience store – even if you want to gamble further on a lottery ticket.

MUSIC

If you come across a jukebox, you can play some sweet tunes. Alternatively, Ryo has a portable cassette player, but you'll need to buy the tapes and batteries for it.

CAPSULE TOYS

It's entirely possible to waste all of Ryo's hard-earned money on these little toys, which feature historical Sega characters and other cool little designs.

SLOT MACHINES

You can't actually win any money playing the slots in Dobuita, due to Japan's gambling laws, but you can exchange tokens for prizes, which is neat.

FALSE DAWNS

SHENMUE FANS ARE FINALLY GETTING THE REVIVAL THEY HAD HOPED FOR WITH SHENMUE III, BUT IT'S NOT THE FIRST ATTEMPT TO CONTINUE THE SERIES SINCE SHENMUE II

For over a year after the release of the Xbox version of *Shenmue II*, there was no news about a potential third instalment in the series, but in the summer of 2004 fans were whipped into frenzy by the announcement of *Shenmue Online*. This project was announced with a flashy CG trailer showing Joy getting taken captive by Lan Di and his goons, with Ryo and Xiuying mounting a rescue effort eventually aided by online players. Unfortunately, the game stumbled into trouble in mid-2005 with the withdrawal of JC Entertainment, a Korean company that had partnered with Sega on the project. The game re-emerged at the China Joy expo in 2006, with both new and old CG movie scenes and a lengthy look at gameplay, which showed off familiar Hong Kong environments and a revamped battle system. However, the project failed to reach the promised open beta stage, and *Shenmue Online* was quietly, but ultimately, cancelled.

Yu Suzuki later tried to revive the *Shenmue* series outside of Sega. Inspired by the success of casual social games like *Mafia Wars*, Suzuki worked with Sunsoft to create the mobile game *Shenmue City* for Yahoo Games in Japan. Although this was a considerable step down in scale compared to the flagship, cutting-edge nature of the main games, had it been a success, the plan was to use it as a basis to relaunch the series. However, *Shenmue City* was only active for just over a year, from its September 2010 beta launch to its closure in December 2011.

"HONG KONG IS BIGGER, WITH MUCH MORE PEOPLE AND MORE ACTION"
YU SUZUKI

» Weather effects are generated via algorithm, and are based on real weather data from the game's setting.

» As well as the major investigation and fighting elements, *Shenmue* included other game styles such as driving.

▶ but was "just about worth getting, if only to show your mates". Other magazines were more positive, but with notable reservations. *Edge* awarded *Shenmue* 8/10, praising the world simulation as "the closest a game universe has come in giving the impression of independence outside of your actions", but criticising the game as being surprisingly restrictive – "there is not enough distraction in the *Shenmue* world", the reviewer lamented, noting that "subquests would have greatly enhanced the experience" and concluding that it was "more than an interactive movie, but does not deliver the freedom expected". *Dreamcast Magazine* scored *Shenmue* 85%, with Chandra Nair noting that it was "a good RPG mixed in with brief elements of arcade action" and "not as ground-breakingly original as it makes out to be".

But broadly speaking, the game was critically acclaimed – the *Official Dreamcast Magazine* scored the game 10/10, with reviewer Ed Lomas claiming that, "You'll see where all the years and all the millions of pounds have gone when you play it, as it genuinely sets new standards in just about every way." Reviewers in other publications were similarly impressed – *CVG* awarded the game 5/5, *DC-UK* gave it the full 10/10 and *GamesMaster* went for a 94% score. *Shenmue* went on to sell 1.2 million copies – a phenomenal number by Dreamcast standards. The problem for Sega was that this was not enough to break even, as the game was the most expensive ever made to that point, with contemporary claims of a $70 million budget and Suzuki's lower 2011 estimate still coming in at $47 million for development and marketing. Just months after *Shenmue* made it to the western world, Sega announced that it would discontinue Dreamcast production and become a third-party game developer.

However, this was by no means the end of the story for *Shenmue* – it wasn't even really the end of the project, which explains why the second game was also released for the now-doomed Dreamcast. "The development of *Shenmue II* started and was done in parallel with *Shenmue*," says Suzuki. "By using common systems, its development was much faster than the one for *Shenmue*." Just like on the Saturn, Suzuki and his team had been working quite a way into the story, and early preview shots of *Shenmue* had even shown Ryo in *Shenmue II*'s environments.

Having successfully discovered where Lan Di was heading after he left Yokosuka, Ryo ended the first game on a boat departing for Hong Kong. A chapter on the boat was developed but ultimately cut for space reasons, instead being released as a comic featuring Chai's attempt to take a little girl hostage and defeat Ryo. When Ryo begins *Shenmue II*, he arrives at Aberdeen Harbour in Hong Kong and soon ventures out into Wan Chai. With the familiar faces of his local suburban community now hundreds of miles away, Ryo quickly learns that he can't blindly trust the people he meets in the big city, as he attempts to save a boy from a beating only to end up with his bag stolen. This leads into a series of QTE sequences and fights, which establish *Shenmue II* as a much more action-packed game from the outset. We had to know if this was a natural consequence of the story direction, or a response to the criticisms of the original game's somewhat sedate pace. "Maybe both," Suzuki responds. "In the first one you were in Yokosuka and in the second one you go to Hong Kong, but Hong Kong is bigger, with much more people and more action. Everything is bigger than Yokosuka, so we had to put more life and action into *Shenmue II*. Then of course, during *Shenmue* we were ▶

» The stakes are raised considerably in *Shenmue II*, as Ryo faces deadly foes more frequently.

also improving our skills, and what we couldn't do in the first one, we were able to do in the second."

The additional action sequences weren't the only thing that changed the feel of *Shenmue II*. For a start, the impatient could now arrive at the location of an important event early, and choose to skip time. There was also a considerably greater sense of freedom – the player could now choose what questions Ryo would ask NPCs, and more of them were able to help. Where failing a QTE sequence or fight in the original game often necessitated a retry, *Shenmue II* would more regularly let the player figure out an alternative way to achieve their goal. Perhaps most importantly of all, Ryo's means of securing an income were left up to the player – a particularly crucial point, as Ryo spends much his time in Wan Chai living in a hotel.

After finding the person he seeks in Wan Chai, Ryo visits Kowloon – specifically, the notorious Walled City, famed as much for its lawlessness as for its dense network of tall, interconnected buildings. This had been demolished in 1993, so a location visit was not possible. "We used photo materials and books as references," says Suzuki. "We decided to make its outlook as a standalone castle on the mountain top in order to create images of the Deathbringer's Citadel." Suzuki wanted to create a representation of Kowloon in which the player could visit all of the rooms, but building so many would take an enormous amount of time on the part of the development team. These were instead created using another generator system.

"We developed a very useful tool called 'Magic Room'. This automatic generator tool enabled us to create a room in a very short amount of time – we were able to create more than a thousand rooms in less than a second, maybe four milliseconds.

"We also developed another generator tool called Magic Maze which allowed us to create a forest in a very short time," Suzuki continues. This would come to be used in the final area of *Shenmue II*, which takes on a markedly different pace from the rest of the game. Having settled his business in Kowloon, Ryo travels to mainland China and meets Shenhua, the girl who he has been destined to meet. The urban environments of the prior chapters are discarded in favour of a large natural environment, where Ryo and Shenhua learn about one another through relaxed conversation as they walk back to Shenhua's home village. Some players were perplexed as to the decision to end the game on this note, rather than after the climactic battle in Kowloon that provided a sense of resolution. "It was because of the scenario," Suzuki says of the decision to finish the game here. "When you start your adventure in Yokosuka, it's a middle class area, and Hong Kong is a fast and speedy city. And then because of the scenario, you also go to the countryside of China, and now it's a very slow life, a very peaceful environment."

Shenmue II was released for the Dreamcast in September 2001, and a European release followed in November, with a much quicker localisation turnaround thanks to the fact that the game retained

» The final disc of *Shenmue II* is spent strolling through the beautiful Chinese countryside with Ryo's new friend Shenhua.

almost all of the original Japanese voice acting. Like its predecessor, the game received critical acclaim. *GamesMaster* scored the game 90%, and *Dreamcast Magazine* 94%, with the latter commenting that it was "much less linear than the original" and opining that "even haters of the original *Shenmue* will probably have some fun with this". Edge offered 8/10, praising the story as "more enthralling and exciting" and noting that "the sheer scope and beauty of Yu Suzuki's sequel is at times breathtaking". Microsoft secured the game as an Xbox exclusive in North America, so fans in that region had to wait until that conversion was released in October 2002, with a European Xbox release following in March 2003. The Xbox version featured graphical enhancements including improved water effects, bloom lighting at night and visual filters, and came packaged with a DVD movie showing the events of the first game. This version was also broadly well received critically, though received some criticism for having dated visuals. However, the game was not a commercial success as had been hoped.

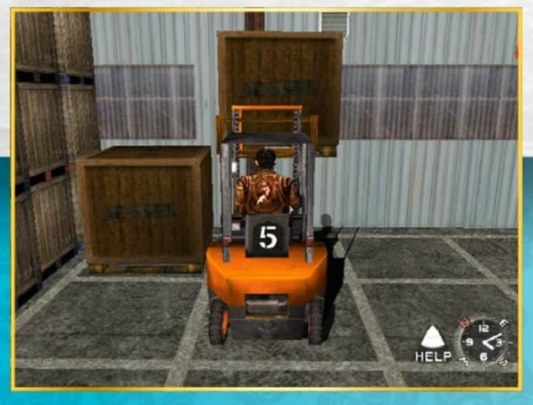
Unfortunately, *Shenmue II* ended on a cliffhanger, and fans would soon become frustrated as no progress was made on advancing the series. Though a couple of failed attempts to revive the series were made, *Shenmue* essentially fell dormant. Although Ryo Hazuki would show up in projects like *Sonic & Sega All-Stars Racing*, many players

"DURING SHENMUE WE WERE ALSO IMPROVING OUR SKILLS, AND WHAT WE COULDN'T DO IN THE FIRST ONE, WE WERE ABLE TO DO IN THE SECOND"

YU SUZUKI

WORKING 9 TO 5

HOW EXACTLY DOES RYO MAKE A LIVING? LET'S FIND OUT...



FORKLIFT DRIVER

This one's mandatory in the original *Shenmue*, as it's an important part of the plot. You do at least get to race the forklifts before each shift starts, which adds a little fun.

CRATE CARRIER

You'll have to do at least one shift in this job during *Shenmue II*, and it's a relatively tedious but dependable way to earn money, particularly if you're good at quick time events.

UNDERGROUND GAMBLER

The lax law enforcement in Hong Kong leads to plenty of opportunities to have a little flutter. This is a risky proposition, but if it pays off you'll obtain money pretty quickly.

» *The Shenmue* games were astonishing graphical achievements on the Dreamcast – it's hard to believe they're 20 years old.

assumed that there was no serious prospect of a third game – and the chances seemed to diminish further when Yu Suzuki left Sega. During this time, fans decided to make their voices heard, taking to Twitter on the third day of every month to campaign for a third game in the *Shenmue* series, using the #SaveShenmue hashtag. Eventually, at Sony's memorable E3 conference in 2015, Yu Suzuki was able to stand on stage and announce that a Kickstarter campaign to fund *Shenmue III* had begun. The game would release for PS4 and PC, and was targeting a December 2017 release date – which would eventually get pushed back to 19 November 2019. The response from fans was enormous. "Because everything we did was a new challenge, we were concerned about 'being able to do it properly,'" says Suzuki. "It was hard to imagine it would become the most successful." But the campaign raised $6,333,295 from 69,320 backers, breaking the record for gaming products on the crowdfunding platform that had been set by *Bloodstained: Ritual Of The Night* earlier that year. A 'slacker backer' campaign ran following the closure of the Kickstarter campaign, bringing the final total of fan funding to $7,179,510 from 81,087 people.

One thing that is particularly interesting is that *Shenmue III* has attracted the return of a number of key figures from past *Shenmue* games. "Everyone who has supported came with full of love of *Shenmue*. We feel even the tough memories of hard times support our deep relationship," says Suzuki. "I believe some may have joined the project thinking, 'Is it okay to leave Suzuki alone?'" Both Ryo's Japanese and English voice actors, Masaya Matsukaze and Corey Marshall respectively, reprise their roles.

LUCKY HIT ATTENDANT

How about a game of Lucky Hit? Ryo gets two hours to entice players into competitive Lucky Hit games, and keeps 50 per cent of any profit he makes

ARM WRESTLER

If Ryo can use his strength (by which we mean your button-bashing and some quick-time event skills) to defeat menacing, muscular men, he'll win a good deal of cash.

STREET FIGHTER

A variety of tough folks can be found in Hong Kong, many with their own quirks like missing eyes and incredible fortitude. If Ryo can defeat them, a cash prize awaits.

USED GOODS TRADER

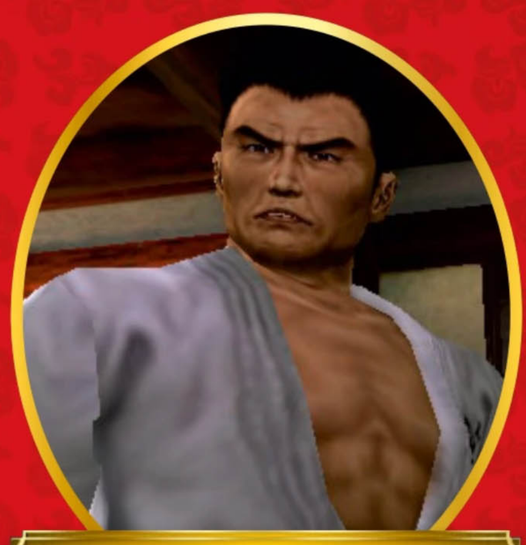
If you've got a bit of Del Boy in you, you can sell capsule toys and other collectable items to pawn shops – just make sure you shop around to get the best price.

WHO'S WHO

A GUIDE TO THE MOVERS AND SHAKERS OF THE SHENMUE WORLD

RYO HAZUKI

Your character is an 18-year-old high school student who sets out for revenge after witnessing his father's murder. He's pretty oblivious to the affections of women and often acts a little quicker than he thinks, but he's a formidable fighter and very tenacious.



IWAO HAZUKI

Ryo's father is a middle-aged martial arts instructor, who is murdered during the introduction sequence of *Shenmue*. He's often seen in flashbacks, providing Ryo with words of wisdom, and apparently killed a man named Sunming Zhao.

LAN DI

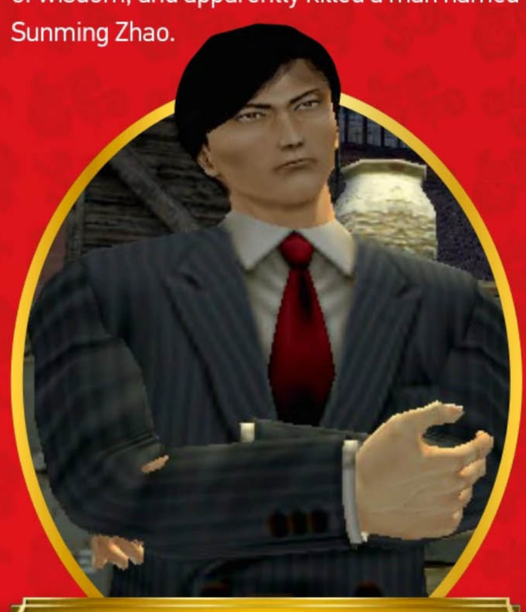
This stony-faced chap is a leader of the villainous Chi You Men cartel, and Iwao Hazuki's killer. He seeks to gain possession of the Phoenix and Dragon mirrors, and fights using the Tiger Swallow style favoured by *Virtua Fighter*'s Lau Chan.

CHAI

This bizarre and decidedly unkempt man wants to join the Chi You Men and work for Lan Di. To this end, he is a thorn in Ryo's side throughout the original *Shenmue*, attempting to steal the mirrors and thwart Ryo's attempts to leave Japan.

NOZOMI HARASAKI

Ryo's classmate also happens to serve as his love interest for the first game, and at one point ends up being kidnapped by a dockside gang. She's originally from Vancouver, and plans on leaving Yokosuka to return to Canada and live with her parents.



GUIZHANG CHEN

Though he's a businessman first and foremost, Guizhang is a formidable fighter who aids Ryo during the events of the first game. His father, Master Chen, is well aware of the significance of the mirrors and Lan Di's pursuit of them.

JOY

Ryo meets his first friend in Hong Kong after almost being run down by her beloved motorbike. She proves to be an important ally, as she's well connected – both within respectable society and within the local gang scene.

WUYING REN

The leader of the Heavens gang in Aberdeen is a brash counterpart to Ryo – though he's capable of looking after himself, he's driven entirely by wealth and not particularly concerned with any notion of justice. He's rather more charismatic, too.

XIUYING HONG

The head of the Man Mo Temple in Wan Chai is also a martial arts expert. Although she aids Ryo during his travels in Hong Kong, she attempts to dissuade him from seeking revenge, fearing that his quest will lead him towards an evil path.

YUAN

Despite appearances to the contrary, Yuan is Dou Niu's right-hand man and an utterly terrifying individual. He has a distaste for anything he perceives as dirty, and loves cutting up foes with knives and far, far more dangerous tools.

DOU NIU

This gargantuan individual is a powerful figure in Kowloon's criminal underworld. As well as possessing terrifying physical strength, he's the leader of the Yellow Heads, a large gang that works with Lan Di's Chi You Men cartel.

SHENHUA LING

This Chinese girl grew up in a small, picturesque village of Bailu surrounded by nature, and is rather innocent. She shares some sort of bond of fate with Ryo, and frequently appears in his dreams prior to their first meeting in *Shenmue II*.

» The arcade returns in *Shenmue III* – we're excited to see what games will be contained within.

The original game director Keiji Okayasu is overseeing development, scriptwriter Masahiro Yoshimoto has returned to develop the game's story, and Hiroaki Takeuchi will return to advise on animation and cinematic scenes. The main character designer Kenji Miyawaki has also returned, stating in an interview that *Shenmue* was "the one title in my life that I have the strongest personal attachment to", even going so far as to say, "I don't think I can die in peace until the next *Shenmue* comes out."

Although Suzuki can no longer draw on the resources of a hardware manufacturer seeking a killer app, many of *Shenmue*'s innovations are now relatively standard features, making development less of an exercise in research and development. But Suzuki still desires more of today's technology. "Of course, because of the hardware improvements and engine improvements, games are easier to develop than before. But I also regret that we are not further ahead in time, because I want to create a game a hundred times more easily than now. If I could I would! Some things we couldn't do before, but with other things we still can't do what I have in mind." In particular, one problem the team struggled with in the Nineties persists – the one that caused Lan Di to lose the long, flowing hair that was originally part of his design. "Clothes physics, we developed from scratch with *Virtua Fighter* and *Virtua Fighter 3*," Suzuki tells us. "There is still a lot to do to improve the physical part of engines. Of course, they are better than ever before, but we still can't make some realistic movements with clothes and hair, it's still hard to do."

Shenmue III won't quite follow the original plan laid down back in the Dreamcast days. "At first I had in my mind that *Shenmue* would be chapter one, *Shenmue II* would be chapter two and so on. But sadly, there was a 20-year lag between *Shenmue II* and *Shenmue III*. So I had to make some changes to the original scenario, because if I wanted to go to the end, I would need more than one life!" Suzuki explains. "It's not shortening the story, but making some changes to tell it more efficiently." When it is released, *Shenmue III* will pick up Ryo's journey the day after the conclusion of *Shenmue II*, and chronicle his journey through Guilin with Shenhua. The main areas of the game are Bailu, Shenhua's home village, Choubu and a fortified castle area. Villains such as Chai and Lan Di will appear and presumably come face to face with Ryo, but he won't be alone as allies such as Ren will return too.

But although progress through the story is being accelerated and highly anticipated showdowns look likely, one thing *Shenmue III* won't do is provide a final conclusion to the saga. "If it's possible, I'd like to make the next step," says Suzuki. And in an odd way, we find that enormously reassuring. The *Shenmue* games were born from Yu Suzuki's belief in a grand vision, and were easily the most ambitious games of their generation. The plan to continue the series, in spite of the enormous difficulties that have been faced in creating the third game, is all the proof we need that Suzuki retains the ambition that he brought to those Dreamcast games. *Shenmue* and *Shenmue II* were released as a double pack for modern platforms in 2018, and revisiting the games now is fascinating – they still possess an amazing ability to draw you into another place and time, and the open world concept feels decidedly modern, yet the execution is clearly from a different era. But the fact that a 20-year-old Dreamcast game can feel modern in any respect is a major achievement, and we shouldn't expect anyone to follow *Shenmue*'s path when its creators were so determined that it shouldn't follow the RPG standard. Ultimately, there's nobody quite like Yu Suzuki in the games industry, and there are no games quite like the *Shenmue* games.

» Lan Di will definitely appear in *Shenmue III*, but what role he'll take is currently unknown.

"IF I WANTED TO GO TO THE END, I WOULD NEED MORE THAN ONE LIFE!"
YU SUZUKI

» Chai returns to attack Ryo and Shenhua, having last been seen on the boat from Japan to Hong Kong.

» Bailu village is the least urban area Ryo has visited to date. What will he find there?

THE HISTORY OF BURNOUT

ALEX WARD

Concept designer, *Burnout series*

AT A TIME WHEN REALISM AND RESTRAINT WERE FASHIONABLE IN RACING GAMES, CRITERION'S BURNOUT SERIES OFFERED A TURBO-CHARGED THRILL RIDE WITH MAJOR SPEED AND MASSIVE CRASHES. ALEX WARD DISCUSSES THE DEVELOPMENT OF A TRULY CLASSIC ARCADE RACING SERIES

Words by Nick Thorpe & Darran Jones

Did you know that if you put a person inside a shiny metal contraption designed to go very fast, they suddenly become 12 times as likely to express hostility? It's a strange quirk of human psychology, but based on our entirely unscientific examination of the evidence, it's true – getting behind the wheel of a car can turn even the most patient anger management counsellor into an unrestrained rage monster. But the terrifying thing is that there's actually a simple way to make it considerably worse. Get a whole bunch of people in cars into one place, thereby clogging up the roads with traffic and ensuring that nobody can use the things. Within an hour, the collective outpouring of animosity will have generated enough energy to power the whole of Wales for a month.

Unfortunately, the most fun solution to this problem is liable to get you killed, and nobody wants to be the subject of a news report containing the phrase 'splattered across the back of a dawdling Volvo'. Thankfully, *Burnout* is there to scratch that itch – unlike most racing games, it's a series where the cars that aren't involved in the race are just as important as the ones that are. All the races take place on public roads filled with regular traffic, encouraging you to drive dangerously to get ahead. It became one of the most acclaimed racing series in gaming during ▶

» *Burnout* was inspired by high-speed chases in movies.

▶ the Noughties, but has since been left alone as its publisher has chosen to focus on other games.

The original project started at Criterion Software as a PlayStation 2 game by the tentative name of *Shiny Red Car*, which was inspired by a French short film by the name of *Rendezvous*, and the movie *Ronin*. The films showed cars being driven through the streets of Paris at high speed, and this provided the basic concept of driving through dangerous urban environments. "We looked at a lot of movie car chases," says Alex Ward, the concept designer of the *Burnout* series. "The DVD market was just starting out so we imported a lot of American movies. The chase from *Basic Instinct* and a chase sequence from the film *Against All Odds* were two sequences we pretty much put into the software."

The silver screen wasn't the only source from which Criterion drew inspiration, though, as plenty of other games were drawn from. "Traffic was there because I was wanting to make something like EA Canada's original 3DO *Need For Speed* – it was about 'high-speed driving' on real roads. Real roads mean traffic. Traffic means crashes. All the other games were about simulating motorsports." As a result, few of the other games that the team looked at were traditional racing games, instead being driving action games that offered the ability to dodge and weave through traffic. "From the arcades, games like *Thrill Drive*, *Crazy Taxi*, *Emergency Call Ambulance* and even *Jambo Safari* were all things that had an influence."

But *Burnout*'s unique selling point was developed after a meeting at EA Canada, while Criterion was shopping the game around to potential publishers. Hanno Lemke challenged Alex and studio head Fiona Sperry to create a compelling reason for players to drive into oncoming traffic. The result was the boost mechanic, which rewarded dangerous driving with extra speed. Dangerous actions such as drifting, going airborne, driving into oncoming traffic and passing close to other cars built up the boost bar, while crashing would reduce it. Once it had been filled, you could spend the boost bar for a limited burst of additional speed – and if you managed to use the whole thing in one go, you were rewarded with even more, alongside anything you accumulated while boosting. Skilled players could

"REAL ROADS MEAN TRAFFIC. TRAFFIC MEANS CRASHES"

Alex Ward

DRIVING MISS CRAZY

Cool vehicles you'll want to wreck

BUS

■ This bus is clearly inspired by the Keanu Reeves action film, *The Bus That Couldn't Slow Down*. Unlock it by beating Face Off 4.

COP CAR

■ First introduced in *Burnout 2*, the Cop Car has excellent top speed with great handling and acceleration. Win Pursuit 1 in order to unlock it.

DRIVER'S ED

■ Slow and steady may help you pass your driving test, but it won't help you in *Burnout 2*. Get Gold on all Offensive Driving 101 lessons and this is yours.

FIRE TRUCK

■ *Burnout 3: Takedown*'s Fire Truck is not only the fastest Crash vehicle, it's also blessed with tremendous Crashbreaker power. Complete all ten Crash Headlines to unlock it.

MADDEN CHALLENGE BUS

■ You unlock this weighty tie-in vehicle in *Burnout Revenge* by merely having a *Madden NFL 2006* save game when you make your profile.

» The series' technical performance is always rock-solid, no matter how what objects are flying about on-screen.

» The high-speed crash-filled game design made the *Burnout* series stand out from its more simulation-focused rivals.

execute a burnout chain, draining and refilling the boost bar as long as they didn't crash.

Of course, avoiding crashes was easier said than done. There was little margin for error in the original *Burnout* – the slightest brush against traffic was liable to send your car into a graceful pirouette down the road, or just as likely a flipping, messy wreck. They weren't pleasant to get into, but the Criterion team made the most of them anyway, showing off your failure from a variety of angles and even providing a 'Worst Drivers' high score table showing who had caused the most damage during races. These certainly helped soften the blow, but in a game where crashing was so ruinous, why was so much effort invested in crashes in the first place? "It's because they are entertaining and exciting to see," replies Alex. "Only a few games had them. *Out Run* and *Thrill Drive* in the arcades, and 3DO *Need For Speed*."

The original *Burnout* was a rock-solid arcade racer, featuring the usual checkpoint-based single race and championship modes, plus fun extras like a survival mode. The game was released for PS2 in November 2001 with Acclaim doing the publishing duties, and versions for the GameCube and Xbox followed in the spring of 2002. All three were received positively by the press. *Edge* scored the initial PS2 release 8/10, cautioning that it "isn't the longest game in the world" but that a lap of successful risk-taking "ranks alongside the best moments this pastime has to offer". *Play* gave the game 77%, offering the criticism that "*Burnout*'s unique selling point (namely its 'horrific' crashes) exists only in direct opposition to the primary requirements of success – namely the intention and ability to avoid ▶

REVENGE RACER

■ This insanely fast vehicle features in *Burnout Revenge* and has a top speed of 209 mph (which rises to 240 mph when drift jumping). You'll need a 100 per cent completion rate to unlock it, though.

ASSASSIN MUSCLE

■ All the Assassin vehicles are good options, but we've got a soft spot for *Takedown*'s muscle variant. It excels in Road Rage events and races.

CUSTOM COUPE

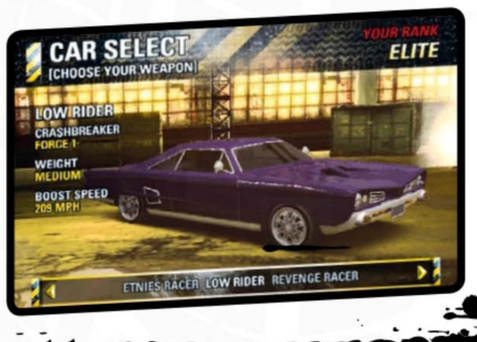
■ You'd expect a vehicle that features on *Burnout 2*'s cover to be good, and the Custom Coupe doesn't disappoint. It would go on to appear in four other *Burnout* games.

WORLD CIRCUIT RACER

■ Got a death wish? Then let us recommend this beast, which is the last vehicle to unlock in *Takedown*'s Race mode. Its control and weight aren't the best, but by gum it's fast.

LOW RIDER

■ This is an absolutely terrible choice if you're choosing a race, but it's great if you're planning some spicy takedowns. Unlock it in *Revenge* by completing Angel Valley Challenge Sheet.



▶ other vehicles." *Official PlayStation 2 Magazine* and *XBM* also both scored the game 8/10.

A sequel quickly went into production and once again, there was cinematic inspiration for the team at Criterion. "Funnily enough we saw *The Fast And The Furious* right before we started. We had a feeling it would be huge and pretty influential," says Alex. "So we thought we'd 'have a bit of that' in the game. I'm not quite sure we did. Still, it became something that me and Chris Roberts [designer] laughed about a lot over the years." *Burnout 2: Point Of Impact* improved the visual appearance, that being a goal in particular with Alex confessing, "I don't think any of us were happy with the HUD and level of presentation we got to for the first game." While the racing stayed pretty similar between games, the sequel did expand on the ideas of the original. Point To Point races were added as a change from the circuit-based tracks, and the new Pursuit mode was a *Chase HQ*-style affair, which saw players given a cop car and tasked with chasing down criminals in order to unlock their cars. This was the first element of combat introduced to the series, a part of the design that would become a much bigger deal later on.

But the most important new mode was the Crash mode. "It started off by seeing people play the game at E3 and just have no idea what was happening on-screen," Alex explains. With the original game's emphasis on spectacular crashes and monetary values assigned to all of your damage, it's easy to see people could misinterpret the aim of the game. "A few games had tried some sort of 'arena crashing' mode but we didn't think much of them. Chris Roberts found a PC game mode featuring toy cars that looked interesting. It sort of spawned from there really." The new mode actively encouraged the player to cause the spectacular pile-ups that the game was capable of displaying, with the goal of causing the most damage possible. Alex describes it as "akin to ten-pin bowling with a car," and that's a pretty good way of describing it.

» The original game focused on avoiding crashes, but *Burnout 2* indulged your desire to create huge pile-ups with Crash mode.

Despite the UK government's condemnation of its marketing campaign, which saw publisher Acclaim offer to pay all speeding fines on the game's launch day ("That sort of stuff was nothing to do with us," Alex clarifies), *Burnout 2* sold well and impressed the critics. The game launched in the autumn of 2002 for PS2, and versions for the Xbox and GameCube followed in the spring of 2003. In an 8/10 review, *Official PlayStation 2 Magazine* stated "many of the ideas at work here are hardly revolutionary, but they succeed because they're so well executed". *Edge* was just as impressed, scoring the game 8/10 and praising it as "the perfect embodiment of the 'bigger, better, more' sequel mentality". The versions on Microsoft and Nintendo's consoles were similarly successful with the press, and the stage was set for another game.

The first thing that changed with *Burnout 3* was the publisher, as Criterion had attracted the attention of an industry behemoth. "For various reasons we signed with EA for the third game," Alex recalls. "Don Mattrick's nephew Bruce McMillan came to see us after we'd walked away from working on a reboot of *Skate Or Die* with [an] ill-fated Chertsey group for a year." The negative experience of that project caused Criterion to request a high degree of autonomy with *Burnout 3*, and EA largely granted it – but ultimately, Alex credits them with helping to focus the game's vision. "The EA folks were pretty smart and helped us push to find what they called 'the big X on the wall' – something to align everyone and everything behind. That X was 'aggressive racing required' and takedowns became the name for the best thing you could do in our games, which was smack someone into oncoming traffic. I think Paul Glancey called them 'knockouts' but 'takedowns' sounded a lot more American."

Burnout 3: Takedown overhauled the racing model of the series into a much more combat-oriented experience. Takedowns were the biggest new factor – instead of avoiding collisions, you were now encouraged to cause your opponents to crash by smashing them into walls and traffic. To aid and encourage takedowns, the boost bar could be used at any time and would be extended and

» People uninitiated into the ways of *Burnout* might call something like this a 'near miss' but we call it 'filling up our boost bar'.

» Even while using the boost, it's important to keep driving dangerously to earn more boost and start a burnout chain.

"EVERYONE WORKED HARD AND GOING TO E3 FELT LIKE A MILITARY OPERATION"

Alex Ward

refilled with each successful takedown. The new focus even allowed for new modes like Road Rage.

Surprisingly, the game was up and running very quickly. A *games™* retrospective noted that the game was "presentation and effects aside, shockingly close to the finished game" after just six months of development time. "I think it was the only Criterion project where we had stable tools and a stable codebase after two previous titles," says Alex. "Plus we had the whole company on the project. We had something to prove to EA and we wanted to show them that we truly were one of the best teams on the planet at that moment on PS2. That game shows that we were." That level of confidence was justified by the fact that development was going so smoothly. "We had a lot of stuff done in the first few months and started 'the ship year' in a good place. After that it got better and better and we were so ready for E3 it was incredible," Alex reminisces. "Everyone worked hard and going to E3 felt like a military operation. I'll never forget us rolling into downtown LA in a fleet of three Cadillac SUVs in convoy. We went to rule that E3 and we did."

The finished game had every bit of the big budget sheen you would expect from an EA game of that time. The game was visually astonishing, offering a true step up while maintaining the 60fps update of its predecessors, with crashes that put even those of the previous games in the shade. The soundtrack was rammed full of licensed artists from Franz Ferdinand to My Chemical Romance. The game even included online play, after EA's well-publicised spat with Microsoft over Xbox Live ended. "We were the first game at E3 that EA had on Xbox Live. They told us in April and the show was in May. Their internal teams knew back in December yet none of them had anything online at that show," recalls Alex. ▶

SCENES OF DESTRUCTION

The signature takedowns of Burnout 3 were a satisfying way to add a little spice to your destructive endeavours

While you're battling under the railway tracks in Downtown, send one of your rivals into a pillar to unlock this treasured memory.

Take out your frustrations with the public transport system by carefully guiding a car into a tram, at about 120 miles per hour.

If we've learned anything from Top Gear, it's that caravans are crap. Your rivals will think so too, once they're embedded in one.

A high-powered sports car must easily cover any road toll, even as scrap – right? Gift one to the toll booth to receive this photo.

We'd love to pretend that this takedown at Riviera is here for a good reason, but we did it so we could print the word 'roustabout'.

Earn this by taking down an opponent on a snow plough in Winter City. Also, sing: 'Call Mr Plow, he brings pain, that name again is Mr Plow.'

It's easy to get smashed on wine, and in the Vineyard it's easy to get smashed into a wine delivery van. Be the smasher, not the smashee.

» The camera comes away from the player vehicle during takedowns, allowing you to admire your destructive handiwork.

» *Burnout 3* was a big visual upgrade – cars and environments and special effects were given a new lick of paint.

▶ Once again, though, this development would have been more difficult without the assistance of the publisher. "The networking side of the game was handled by Paul Ross and Amy Phillips. They used and adapted existing EA technology that had been used for the sports games. Things were a lot different back then and they did a very good job."

Burnout 3: Takedown was released in September 2004 for PS2 and Xbox, and became the series' best reviewed game and one of the most critically acclaimed games of any kind. The game earned 9/10 from *Edge*, which praised the "confidently revised dynamic" of the racing model and described the game as "Criterion Games' finest hour". The game also received the full 10/10 from *games™*, which noted that while it wasn't a realistic game, nor one which offered much in the way of customisation, it was "the most fun we've ever had with any racing game". *Burnout 3* went straight to number one in the all-formats chart and hung around the top ten for a couple of months. More than any other, this game would become the reference point for future *Burnout* games, and it was so good that EA acquired Criterion.

B*urnout Revenge* developed the formula with the introduction of the traffic check – a move which allowed players to use civilian cars to their advantage. By ramming traffic from behind, you could send it careening across the road, taking out further cars and potentially your opponents. "That came from wanting to explore how many cars we could draw on-screen at once, and what density of traffic we had," Alex explains. The game also emphasised the 'revenge takedown', a takedown performed on the last car to perform a takedown on you – and this was largely a branding decision. "The original name for the game was *Burnout 4: Rush Hour*. We were overruled by some posturing American idiot who told us that 'no successful game could ever have a four or a five after its name' and then they didn't like 'Rush Hour', so then they said 'get your revenge on rush hour' and 'revenge' stuck. I didn't like it then and still don't," says Alex. "The mode was a bit messy but I have good memories of working through the night with Hamish Young, Chris Roberts and Richard Franke trying to fix the many things that went wrong on that

PREPARE TO RACE

Our favourite game modes of the Burnout series

ROAD RAGE

INTRODUCED IN: BURNOUT 3

■ As its name suggests, this game mode from *Burnout 3* is all about causing as much carnage as possible. Drive flashy, drive dangerously. Hell, you can drive however you like. Just be sure to score as many takedowns as possible in the required time limit. Multiplayer variants are also available.

SURVIVAL

INTRODUCED IN: BURNOUT

■ While the *Burnout* series has always been about mayhem, Survival takes a more cautious approach. Racing is still the order of the day, but here you have to get as far as possible without getting in a collision of any kind. It's a lot harder than it sounds.

RACE

INTRODUCED IN: BURNOUT

■ There are plenty of racing games where you have to finish ahead of your opponents, and the *Burnout* series is no different. The difference, of course, is that *Burnout* encourages you to take risks and drive dangerously, which might not be very sporting, but does become a lot of fun.

ELIMINATOR

INTRODUCED IN: BURNOUT 3

■ More pedal to the metal racing, but here you'll want to stay far away from last position. Stay ahead of the pack by whatever means possible because if you come in last at the end of each lap you're not going to be given a chance to finish the race.

CRASH

INTRODUCED IN: BURNOUT 2

■ This highly entertaining mode has become a firm favourite with fans and is great fun in multiplayer. At its core, Crash is all about getting the high score, and you do that by careering your chosen vehicle into heavily populated crash zones, causing as much insurance damage as possible.

» Traffic Attack was centred on *Revenge*'s signature traffic check mechanic, and challenged you to cause chaos.

"WE WERE OVERRULED BY SOME POSTURING AMERICAN IDIOT"

Alex Ward

development. I did like the progressive scoring that Hamish implemented – hot shot, trick shot, money shot – that stuff was brilliant."

Burnout Revenge was launched in September 2005 for PS2 and Xbox and went straight to the top of the charts again, as well as earning praise from the press. While *GamesMaster* felt that the new Traffic Attack mode wasn't too great as "the way to win tends to be driving *slower* and making sure you hit everything", it praised the game as "virtually flawless" in a 95% review. *PSM2* felt that the new traffic check was "un-*Burnout*" as it removed the element of danger from much of the game's traffic, but still praised the game for being "hugely exciting and laden with instantly-rewarding fun," scoring the game 93%. *Burnout Revenge* also showed up on Xbox 360 six months later. "This was because the market was tough at that time. New platforms came out, and naturally EA wanted all their games on every platform. That became our first HD game," says Alex. But it wasn't the next-gen experience that its successor would ultimately offer – with development time being limited, only so much could be done to improve the game. "Hardware didn't really allow us to do that much without starting all over again. We 'spanked' all the textures, fixed a few bugs and came up with a cool 'save and share' experience where you could upload all your best moments to Xbox Live." *Xbox World 360* scored the game 87%, praising it as a "showcase version" but noting it offered little over the previous generation's versions.

With the next major *Burnout* game for HD consoles still some way off, *Burnout Dominator* was released for PS2 and PSP in the spring of 2007. This game attempted to blend the mechanics of the earlier *Burnout* games with the combat sensibilities of the more recent ones. Takedowns were included and featured prominently, but the traffic check was ditched and the burnout mechanic was revived – you could still boost at any time, but if you waited until you had a full boost bar, you could earn boost while boosting and start a burnout chain. The new Burnout Challenge mode emphasised this mechanic, while the Maniac mode encouraged players to rack up a high score by driving dangerously without crashing. The game was reviewed well, but not to the same extent as previous games. *Edge* awarded the game 7/10, calling it "undeniably exciting and well-formed" but felt that the game was a stopgap and ▶

LITTLE LEGENDS

Burnout Legends took the series into portable territory with a 'best of' compilation – was it a smash hit?

Sony's PSP promised to bring console-quality 3D gaming to the handheld arena, and EA's attempt to deliver on that promise came in the form of *Burnout Legends*. Rather than attempting a conversion of *Burnout Revenge*, the developer chose to compile some of the best bits of the series' first three games. Most of the tracks came from *Burnout 2* and *Burnout 3*, with a single one from the original game, and the driving model was carried over from *Burnout 3*. The game was well received, scoring 9/10 in *games™* and 7/10 in *Edge*, with the latter's biggest criticism being that "there's nothing here to keep you away from the bigger brother versions, unless you're always playing away from home".

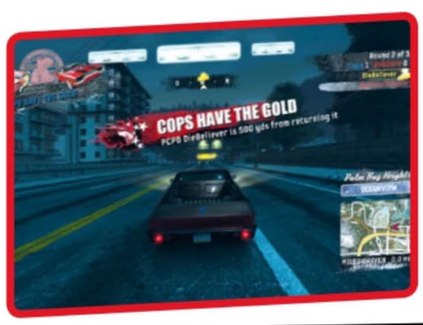
***Legends* also appeared for the Nintendo DS. The conversion was handled by Visual Impact, a team which had made a name for itself by creating a variety of 3D games on the Game Boy Advance. Unfortunately, the DS version of *Burnout Legends* was akin to the smouldering wreckage that is so commonly seen in the series, as the game featured a woeful handling model, dodgy collision detection, a poor sense of speed and very little traffic.**

» The PSP version of *Legends* shoots ahead of its DS counterpart by a mile.

COPS AND ROBBERS

INTRODUCED IN: BURNOUT PARADISE

■ In the old days, playing Cops And Robbers meant you split into teams and chased after your mates on your BMX until only one was left. *Burnout Paradise* takes a different approach and is effectively capture the flag. This exclusive DLC also added police skins for 33 of the game's cars.



GRAND PRIX

INTRODUCED IN: BURNOUT 2

■ As you'd expect, this is a selection of races that awards you with a trophy upon completion. You have to score the most points to win the Grand Prix (of which there are eight in *Burnout 2*) and handily you don't have to finish the entire championship in a single sitting.

CRASHBREAKER EVENTS

INTRODUCED IN: BURNOUT REVENGE

■ This mode adds the crashbreaker mechanic to Eliminator, GP, Race and Road Rage events. They play out as normal, except you can blow up your vehicle along the way, taking rivals with you. Careful though, as you can only detonate your vehicle once.

FACE-OFF

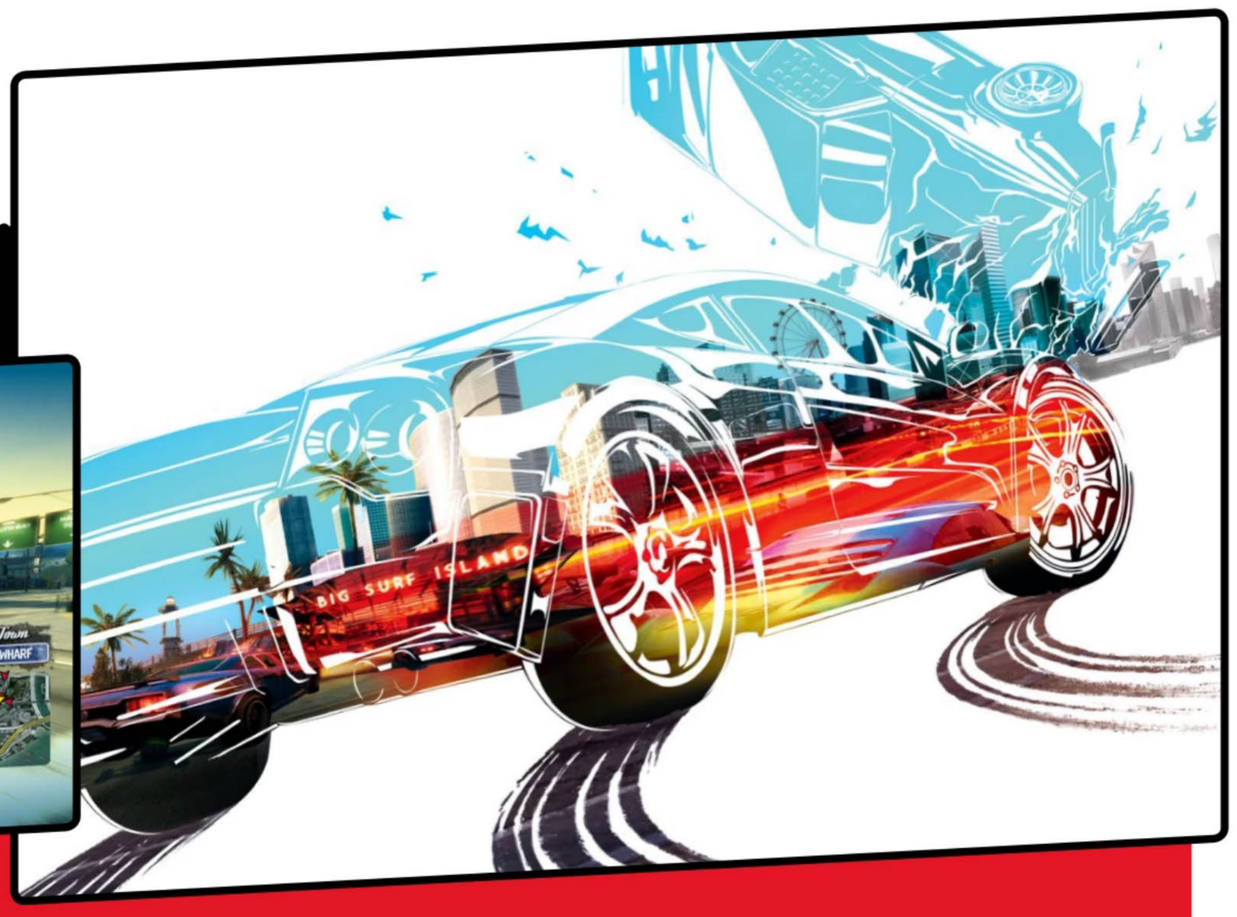
INTRODUCED IN: BURNOUT

■ Sometimes it's not just enough to beat your opponent in a race - you want to rub their face in it, too. Face-Off caters for this by putting you up against a string of increasingly tougher opponents who have to hand their vehicle over to you upon being beat.

BURNING LAP

INTRODUCED IN: BURNOUT 3

■ Every arcade racing game needs a great time attack mode to keep the excitement levels up, and we love how it's implemented in the *Burnout* series. Burning Lap requires you to complete a lap in a specific time, with a Bronze, Silver or Gold medal being awarded depending on how fast you finish.



» *Burnout Paradise* has some fantastic art. Look out for it on our cover in 2023.

» "Take me down to the Paradise City where the cars aren't clean and the roads are gritty."

▶ criticised the omission of Crash mode, which it felt was "sure to baffle and infuriate long-time fans". *PSM3* gave it 81%, complaining of a sense that it was "trying to shoehorn two separate types of racer onto one disc to please everyone."

The next game in the series was the true leap into the HD era. Instead of featuring closed circuits and point-to-point races, *Burnout Paradise* took place in Paradise City, a full open world environment which hosted a variety of both classic *Burnout* events and new challenges. "The game was really about learning and exploring the city. The game was just something that you did whilst doing that," says Alex. "My mantra for it was 'not playing the game is the game' (which was pretty risky) – I'm lucky that Fiona, Hamish, Matt, Craig, Pete and PG all went along with it as well."

Given that he has said how radical and risky a shift this was, we couldn't help but wonder why Alex and the team would choose such a design. "Two reasons," says Alex when asked. "Firstly, I was really into open-world games, especially *Mercenaries* by Pandemic. It dawned on me that 'the world *is* the game' and you could have many, many hours of fun just exploring and doing things different ways." That's not so surprising, as 3D open world games had become enormously popular over the course of the early Noughties. The second reason is more surprising, though. "After four games most of our artists didn't quite get on with each other," Alex reveals. "Tracks tended to be made by a single person for the whole development. An open-world game would force them to collaborate and communicate and hopefully we'd get a better result, better game and better team." Using the game design to resolve internal studio tensions is an interesting approach, and not one we're sure we've heard of before. But before any developers reading this get any ideas, Alex is quick to note that the intended result was not achieved. "But looking back that was because the tools and workflows were horrific," he says. "We were totally not ready to move to PS3 and not ready to do anything other than 'make PS2 games on PS3' so it became a massive headache. It was okay in the end, but not quite worth the hardship endured by everyone who worked on it."

In fact, Alex remembers the game being a difficult development in general. "That one is all about HUD and navigation really. We weren't that great at those things," he explains. This was a hugely important factor, as the racing model of the game didn't specify routes within the open world – you were free to reach the goal any way you liked. This meant that traditional directional indicators were useless, and the team had to come up with its own solution. "I think we sort of got there in the end. I liked what we did with the overhead road signs and I remember making the decision to make all the races end at compass points on the map." Limiting the number of finish lines helped to reduce the burden on the player, as they typically knew where they were going and mostly had to keep an eye on how they were getting there.

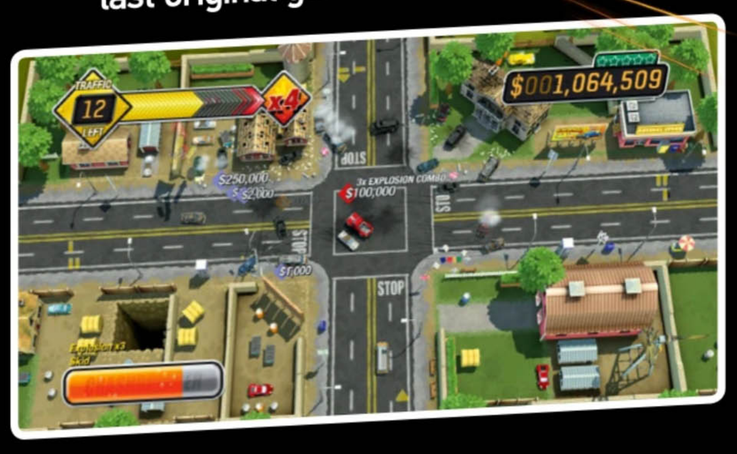
Despite the difficulties in developing the game, *Burnout Paradise* blended core *Burnout* features with the open-world concept very well – the new Showtime mode was a reimagined version of Crash mode, focused on gaining distance by keeping your car bouncing, while Stunt Runs let you show off your driving skills by performing tricks for points. Cars now had different boost

» The cars weren't licensed, but they evoked real-world designs.

» There are lots of cool things to find while cruising through Paradise City, including Super Jumps.

CRASH AND BURN

The strange departure that was Burnout's last original game to date



Although *Burnout Paradise* was the last full-fledged *Burnout* game, a download-only game by the name of *Burnout Crash* was released for PS3 and Xbox 360 a few years after that. The game took the Crash mode of past games and reframed it as a top-down affair, with the aim still being to score points by causing as much damage as possible. The game was a slight package, offering just seven cars and six intersections, although the online Autolog challenges did add some lasting value. Unfortunately, the servers for the game are now offline, diminishing the game's appeal. Reviews of *Burnout Crash* were mildly positive upon its release in September 2011, with critics typically finding that it was fun, but merely served to whet the appetite for a more substantial *Burnout* experience. *Play* offered one of the most positive reviews, scoring it 79%, while a 6/10 review in *games™* suggested that "gamers looking for a test of skill would be better off playing *Angry Birds*". *Official PlayStation Magazine* split the difference and scored it 7/10, with the reviewer feeling that the game "strikes just the right balance between addictive and repetitive". *Burnout Crash* also received a release on iOS devices in April 2012, and that version found a better critical reception, however the game was pulled from sale in 2015.

» *Burnout Paradise Remastered* shot to the top of the charts when it was released last year.

» Bikes were added to *Burnout Paradise* as part of the game's extensive campaign of updates and DLC.

types, with Speed being similar to the early games, Aggression being similar to *Burnout 3* onwards and a Stunt type that encouraged performing tricks. Open-world elements were smartly worked into the game design – damage to your car persists between events and you need to seek repair shops to fix it (this is less onerous than it might sound, as it's an instant process) while driving through gas station forecourts would award you with a full boost bar.

In January 2008, *Burnout Paradise* arrived for Xbox 360, PS3 and PC. *Edge* described the game as a "build-your-own *Burnout*" where "if you don't like what lurks around one particular corner, you just drive along to the next and score some leisurely points en route." Praising it as Criterion's "most courageous game to date", the magazine claimed that it was "hard not to see it as the birth of a new era" and awarded it 9/10. Other critics broadly agreed – the game scored 9/10 in *X360 Magazine*, 90% in *GamesMaster* and 9/10 in *Official PlayStation Magazine*. Not everyone was quite so impressed though, with games™ scoring it 7/10 and *Play* awarding it 74%, criticising it for being too repetitive.

But that wasn't the end of the *Burnout Paradise* story, as the game received a considerable amount of DLC. "We only did that because the whole

"WE DID A LOT OF GROUNDBREAKING STUFF"

Alex Ward

'second sale' thing was huge in the US at the time. We decided to create a reason for people *not* to trade our game," explains Alex. "We also knew that EA sales people sold our game for a week or two, then went onto *The Sims*, then *Tiger Woods* golf etc. Few of them really understood our work or believed in *Burnout* as a franchise. We wanted to create a reason for the game to continue to sell so all the updates fell out of that." Features added included new game modes, day/night cycles, motorbikes, and even a whole new stunt-friendly area called Big Surf Island. "We did a lot of groundbreaking stuff and everyone stepped up, artists, programmers, the ops people, everyone. We broke new ground with the format holders as no one had ever done so much DLC at the time." This ultimately led to the release of *Burnout Paradise: The Ultimate Box*, a package that collected the game and its expansions. In fact, there was more *Burnout Paradise* content than players ever saw. "We also did a lot of stuff that never came out – we had planes, helicopters, multiple players [in] a car and bike, we had lunar challenges on the Moon… again all groundbreaking stuff," Alex reveals. "I don't think you'll ever see anything like it ever again really."

Perhaps fittingly, it seems that we're unlikely to see *Burnout* again. Criterion moved on to revitalise the *Need For Speed* series, bringing much of the *Burnout* experience to that series. And apart from the downloadable game *Burnout Crash*, there hasn't been a new game in the series for over a decade. Though *Burnout Paradise Remastered* went to the top of the charts when it was released in 2018, there's no sign of a new game in the series, so *Burnout* fans wanting their fix on current systems have limited options – though one of them is *Dangerous Driving*, the spiritual successor developed by Alex's current company Three Fields Entertainment. But if you're reading this, then you likely have access to the hardware needed to run the thrilling originals, and they hold up beautifully today – so go pick one up and have a smashing good time. ✱

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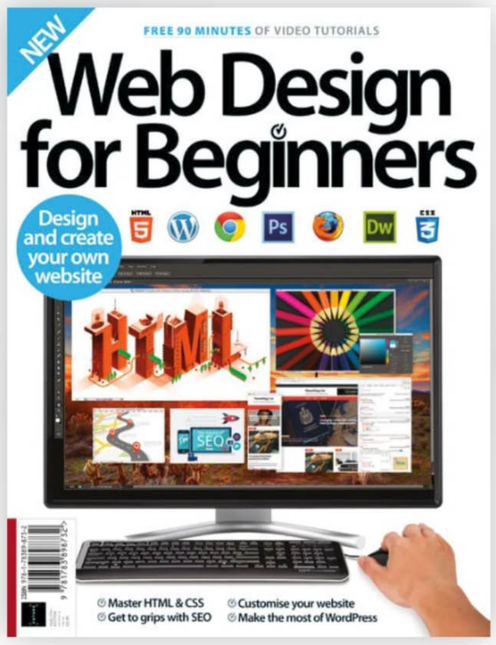

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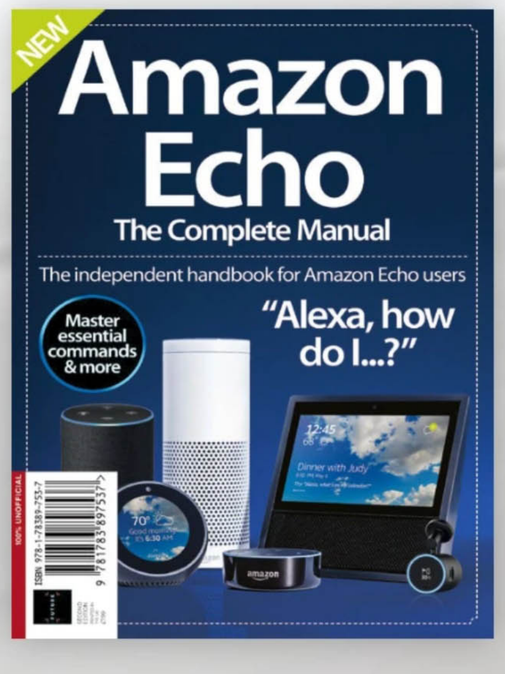

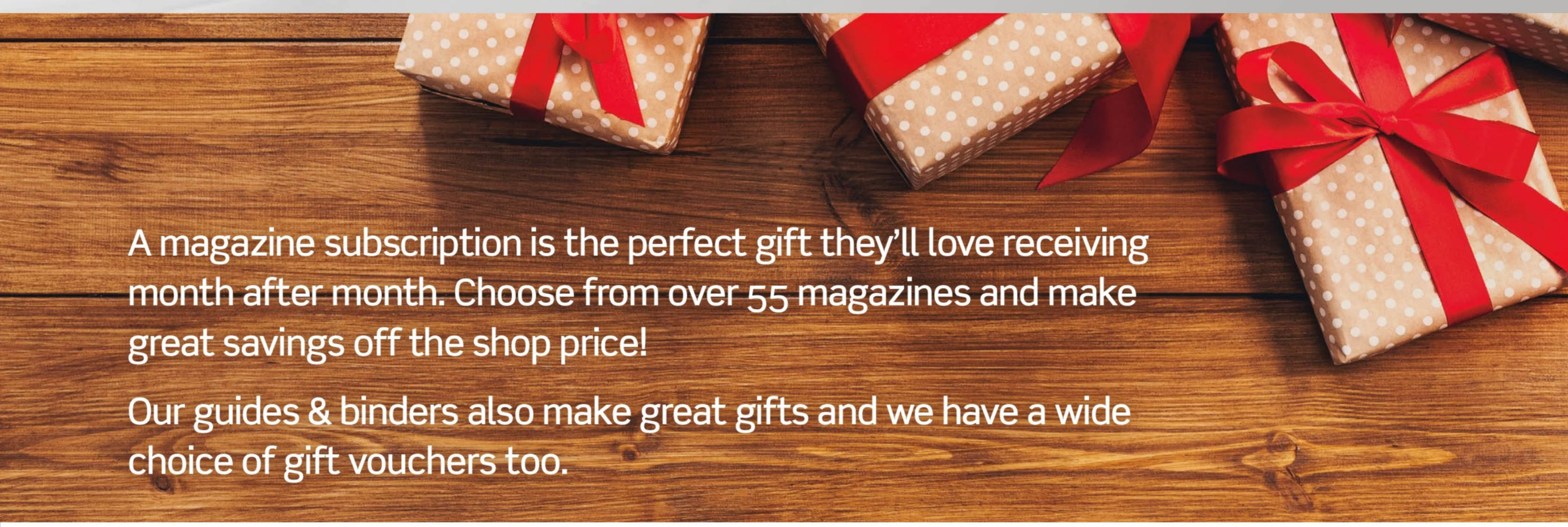

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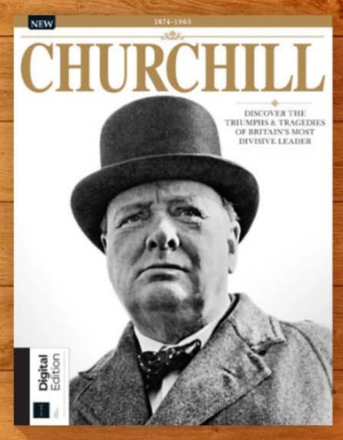

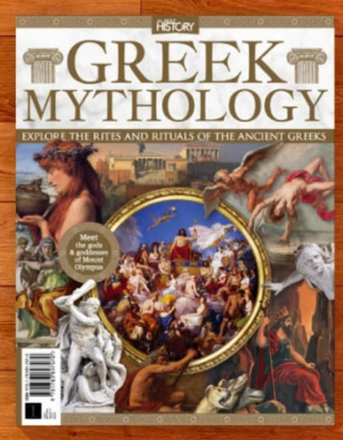

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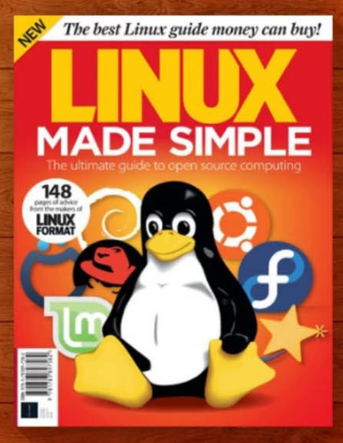

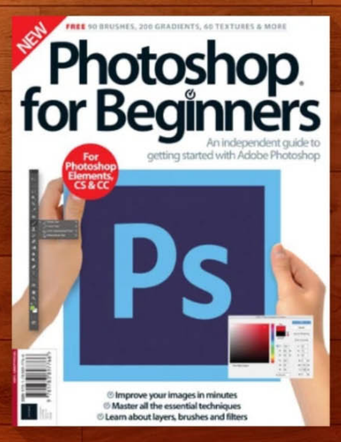

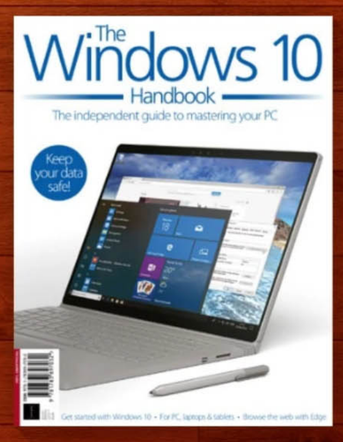

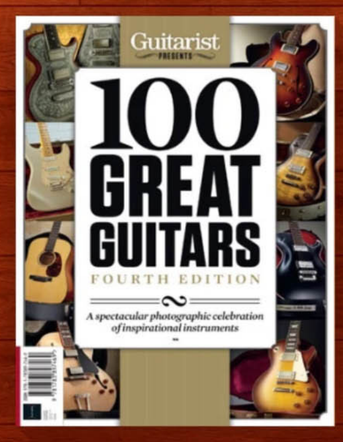

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